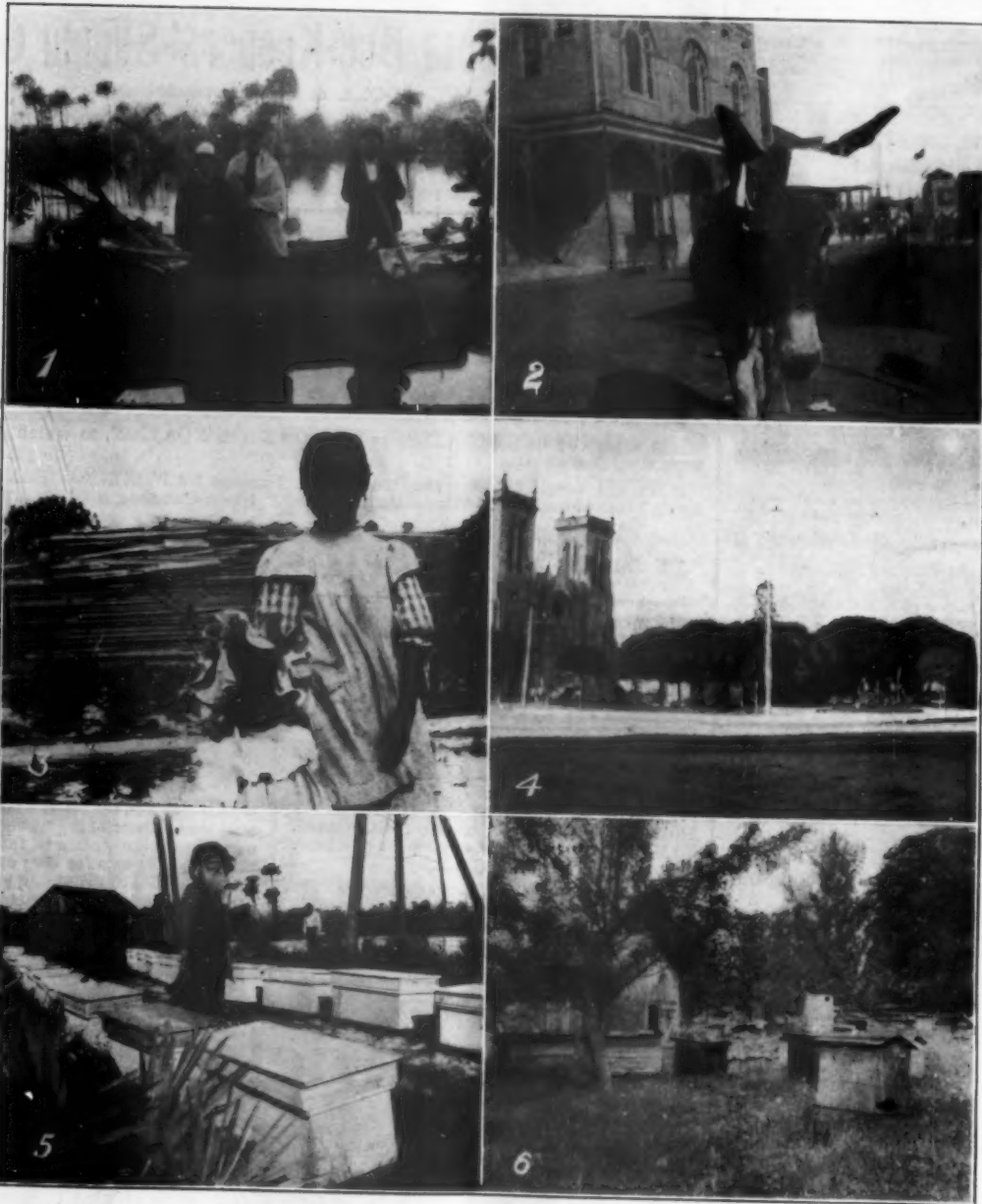


# AMERICAN BEE JOURNAL

## SOME MORE INTERESTING SNAP-SHOTS (See page 186)



# American Bee Journal



PUBLISHED WEEKLY BY  
**GEORGE W. YORK & COMPANY**  
 334 Dearborn Street, Chicago, Ill.

## IMPORTANT NOTICES.

THE SUBSCRIPTION PRICE of this Journal is \$1.00 a year, in the United States, Canada, and Mexico; all other countries in the Postal Union, 50 cents a year extra for postage. Sample copy free.

THE WRAPPER-LABEL DATE indicates the end of the month to which your subscription is paid. For instance, "dec 07" on your label shows that it is paid to the end of December, 1907.

SUBSCRIPTION RECEIPTS.—We do not send a receipt for money sent us to pay subscription, but change the date on your wrapper-label, which shows that the money has been received and credited.

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 Nothing less than 1/4 inch accepted.

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These rates are subject to either time or space discounts, at choice, but not both.

Reading Notices, 25 cents, count line, subject to the above discounts.  
 Goes to press Monday morning.

## National Bee-Keepers' Association

### Objects of the Association.

- 1st.—To promote the interests of its members.
- 2d.—To protect and defend its members in their lawful rights.
- 3d.—To enforce laws against the adulteration of honey.

Annual Membership Dues, \$1.00.

General Manager and Treasurer—  
 N. E. FRANCE, Platteville, Wis.

If more convenient, Dues may be sent to the publishers of the American Bee Journal.

**Bee-Keepers' Souvenir Cards**  
 are just the thing.  
 We send them by Return Mail



As most of our readers know, we have gotten out a Souvenir Postal Card for bee-keepers. The cuts herewith show the card in reduced size, and but one color, while the real card is printed in 4 colors. It could also be sent to honey-customers, to remind them that it is time to buy more honey, etc. There are many uses to which this Card can be put.

Prices—postpaid: 3 cards for 10c (stamps or silver), or 5 FREE with the American Bee Journal one year at \$1.00; 10 for 25c. There is a blank space on the card about 2x2 1/2 inches in size for writing. Send all orders to

**GEORGE W. YORK & CO.**  
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Now is the Time to Order Your

## BEE-SUPPLIES

### AND SAVE MONEY

It will cost you only one cent for a postal-card to get our delivered prices on **Dovetailed Hives, Sections, Section-Holders, Separators, Brood-Frames, Foundation, Smokers, Extractors, Shipping-Cases, etc.** It may mean a saving to you of many dollars. It is the natural advantage we have over others that enables us to make you the Best Price. There are no better goods than ours, and we GUARANTEE SATISFACTION or REFUND your MONEY.

We MANUFACTURE and keep in stock all standard Bee-Goods, and can ship promptly.

## Minnesota Bee-Keepers' Supply Co.

JOHN DOLL & SON, Proprietors,  
 Nicollet Island, No. 33, MINNEAPOLIS, MINN.

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Why do thousands of bee-keepers prefer it to other makes?

Because the bees like it best and accept it more readily.

## Dittmer's Process is Dittmer's

It stands on its OWN NAME and its OWN FOUNDATION, to which alone it owes its reputation and merits.

We are now ready to make prices for next season for WORKING WAX for CASH and for full line of Supplies. Wholesale and Retail. Free Catalog and Samples.

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IF YOU WANT TO KEEP POSTED  
 UPON THE  
**GREATEST \* POLITICAL \* QUESTION**  
 OF THE DAY, YOU MUST READ

## The Defender

the NATIONAL EXPONENT of the PROHIBITION MOVEMENT. 16 pages, weekly; illustrated. To New Subscribers, 50 cents for one year.

**WILLIAM P. F. FERGUSON**

Editor and Publisher

400 WEST 23RD STREET, NEW YORK, N. Y.  
 35Atf Please mention the Bee Journal.

## Queen-Button for Bee-Folks



This is a very pretty thing for a bee-keeper or honey-seller to wear on his coat-lapel. It often serves to introduce the subject of honey, and frequently leads to a sale.

The picture shown herewith is a reproduction of a motto queen-button that we are furnishing to bee-keepers. It has a pin on the underside to fasten it. Price, by mail, 6 cents; two for 10c; or six for 25c. The American Bee Journal one year and 4 buttons for \$1.10. Address all orders to

**GEORGE W. YORK & CO.**  
 334 Dearborn Street, - CHICAGO, ILL.

## Marshfield Goods

When you buy those goods you can be assured of good, honest goods.

We make nothing but PERFECT SUPPLIES. Sections made of young basswood timber. Hives and Shipping-Cases are Beauties. If you have not received our Catalog of Supplies, please write for it.

**MARSHFIELD MFG. CO., Marshfield, Wis.**

Please Mention the American Bee Journal when writing Advertisers



# American Bee Journal

## Pure and Selected Italian Queens

Sent direct from Bologna (Central Italy.)

Address, EXTENSIVE APIARIES.

**ENRICO PENNA, San Ruffillo, Bologna, Italy.**

1907 Price-List for America:

	1 Queen	12 Queens
April and May .....	\$1.90	\$21.00
June and July .....	1.80	20 40
August and September .....	1.80	19.20

NOTICE.—Mr. Doolittle's "Scientific Queen-Rearing" is my guide in rearing my queens. Only queens of the highest type are sent to purchasers. In September and October I can send also Italian Queens of common bees at \$1.30 each.

CONDITIONS—Cash with orders. The queens that may die on the journey will be replaced provided they be sent back immediately in their boxes. Purchasers are urgently requested to give their address very clearly.

Mention Bee Journal when writing.

## Hershiser Wax-Press

### And Other LEWIS BEE-SUPPLIES

#### Good Goods and Prompt Shipment

Any bee-keeper can save money, as long as the goods last, on almost any supplies needed next season, by taking advantage of our

#### Fire Sale of Bee and Poultry Supplies

Have sold several thousand dollars worth of these goods, and no complaint.

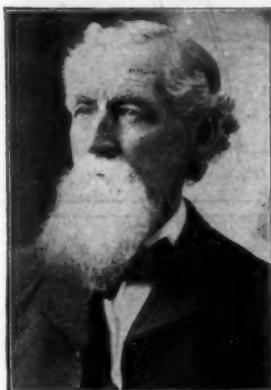
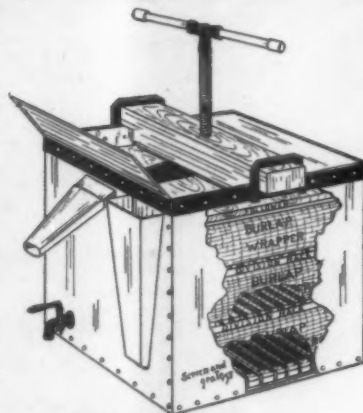
Send for list of Slightly Damaged Goods to select from at Reduced Prices. Also for 1907 Catalog of New Goods.

Quote us prices on Honey and Beeswax. Honey in 60-pound cans for sale.

**H. M. ARND, Proprietor, York Honey and Bee-Supply Co. (Not Inc.)**

Long Distance Telephone, North 1559. 191 AND 193 SUPERIOR ST. CHICAGO, ILL.  
(Three blocks north and one block east of our old location.)

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## What Would Be

the condition of bee-keeping had not some ingenious bee-keeper invented and made the **Bingham Bee-Smoker and Honey-Knife?**

Bingham fills orders for thousands, every year, from the largest distributors of bee-keepers' supplies, who say they like to sell Bingham's Goods, because they always give satisfaction.

If you want the **BEST**, and can't get them handy, you can always get them direct from the **original inventor and sole manufacturer**, at regular prices, per mail.

It will always be a pleasure to know that you bought the Best from the original inventor of such a perfect tool.

Respectfully yours,

**T. F. BINGHAM.**

Farwell, Mich.

SE2t

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## TRAINLOAD OF BEE SUPPLIES

ENROUTE TO

**A. G. WOODMAN CO.**

GRAND RAPIDS, MICH.



## Queens

The finest in the land from DANIEL WURTH &amp; GRANT.

**3-Banded, Red Clover, and 5-Banded Goldens.**

The Goldens took First Premium at every Fair they

were exhibited last year.

Prices:—Untested, \$1.00 each; Tested, \$1.50 each. Address,

**DANIEL WURTH & GRANT**  
PITKIN, ARK.

Make Money Orders payable on West Fork, Ark. I have moved from San Antonio, Texas.—D. W. 6ESt

### Bee-Supplies and Berry-Boxes

Lewis B ware at Factory Prices. Bee-keepers, club together, send me list of goods wanted, and let me quote you prices. I give the regular discounts. Beeswax wanted. Send for Catalog.

6ESt W. J. McCARTY, Emmetsburg, Iowa.

### Big Reduction in Supplies

Until May 1. Big stock of Dovetailed Hives and One-Piece Sections to draw from. **FREE**—a year's subscription with order amounting to \$15 or over. Send for 32-page Illustrated Catalog—free.

W. D. SOPER (Route 3) Jackson, Mich.  
28ESt Please mention the Bee Journal.

## Caucasian and Italian QUEENS

First Premium at Michigan State Fair, 1906. Circular tells the rest. A postal gets it.

**A. D. D. WOOD, Lansing, Mich.**  
8ESt Please mention the Bee Journal.

**4 HARDY EVERGREENS**

To prove they are healthy and vigorous we'll send Four Trees 3 yrs. old free to property owners. Mailing expense 5c. A postal will bring them and our catalog with 64 colored plates. Write today. **THE GARDNER NURSERY CO., Box 815, Osage, Iowa.**

**4 FREE**

## ITALIAN QUEENS

Golden or Leather Colored. One colony of this strain produced 280 fancy sections in one season. Order now for delivery in season. Untested Queen, \$1.00; six, \$5.00. Tested, \$1.50 ap. Correspondence solicited.

**ROBERT B. MCCAIN,**

2Atf OSWEGO, ILL. R.D. 1.

**MAKE YOUR OWN CUT GREEN BONE**

It's a very easy, simple operation with a **CROWN Bone Cutter**. Green bone makes eggs, and stimulates the hen's productive organs. Cut bone fresh every day. The Crown does it quickly with no bother or muss. 25 years building cutters. Write for free catalog. **WILSON BROS., Box 618, EASTON, PA.**

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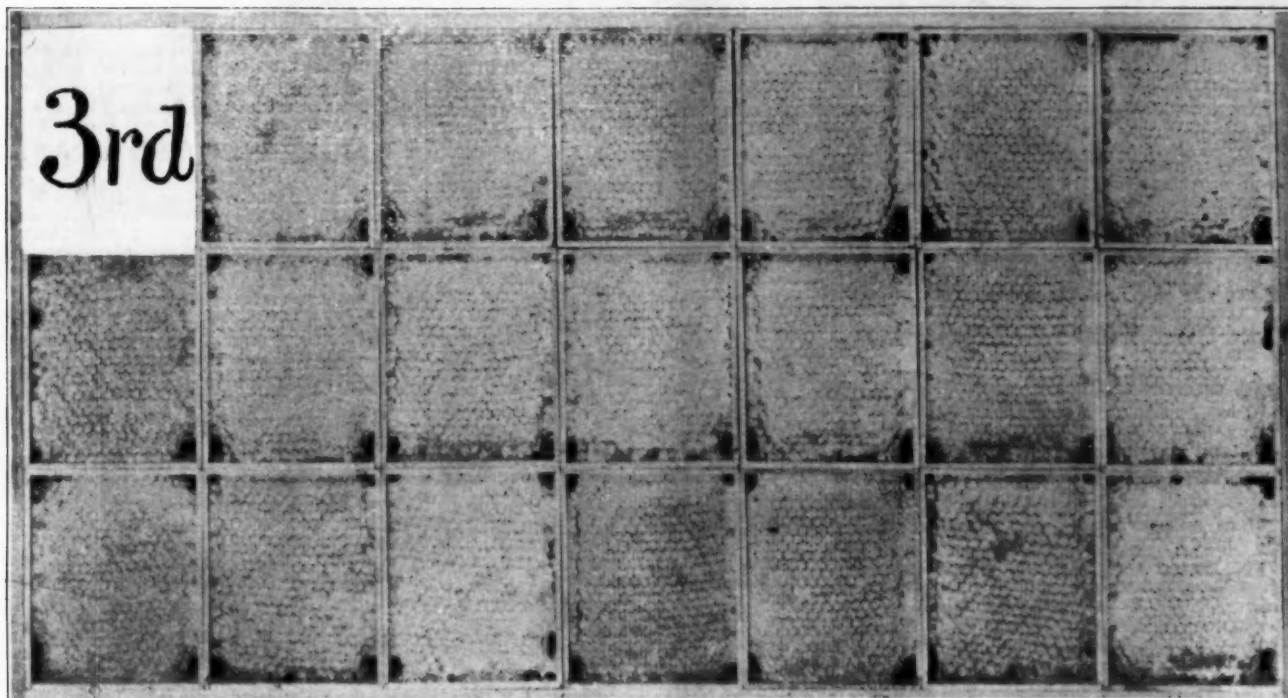
**12 Pkts SEEDS THE BEST TO BE HAD 20c**

Beet, Egyptian; Cabbage, Surehead; Carrot, Danvers; Corn, Early Evergreen; Cucumber, New Cumberland; Lettuce, Early Curled; Musk Melon, Paul Rose; Water Melon, Sweetheart; Onion, Prize Taker; Radish, New Conical; Squash, Marrow; Tomato, Matchless. One packet each for 20 cts., coin or stamps. **FREE** with order: packet of New Bavarian Oats. Mention paper. **W. W. BARNARD CO., Dept. Q, Kinzie St., Chicago.**

Mention Bee Journal when writing.

# American Bee Journal

## HONEY FROM THE DANZENBAKER HIVE THE FANCY COMB HONEY HIVE



### More Honey

(That is, more honey in the super at the right time.)

### Better Honey

(More honey that will grade fancy and extra fancy.)

### More Money

(No question but what the producer of a fancy and extra fancy grade gets a better price, and does it easier.)

#### Write Nearest Branch or Agent for Catalog.

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\*Wetumpka.....J. M. Jenkins  
**Canada**  
Toronto.....E. Grainger & Co.  
**California**  
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\*Los Angeles.....California National  
Honey-Producers' Association  
**Colorado**  
Denver.....The L. A. Watkins Mds. Co.  
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Washington.....The A. I. Root Co.  
**Georgia**  
Savannah.....Howkins & Rush  
124 Liberty St.  
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Chicago.....The A. I. Root Co.  
144 East Erie Street.  
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Indianapolis.....Walter S. Ponder  
Evansville.....Vickery Bros.  
**Iowa**  
Des Moines.....Joseph Nysewander  
**Kansas**  
Augusta.....Carl F. Buck

**Mississippi**  
Brazelia.....George A. Hummer  
**Massachusetts**  
Boston.....H. H. Jepson, 182 Friend Street  
Lyonsville.....W. W. Cary & Son  
**Maine**  
Mechanic Falls.....The A. I. Root Co.  
**Maryland**  
Baltimore.....Rawlins Implement Co.  
**Michigan**  
Bell Branch.....M. H. Hunt & Son  
Fremont.....George E. Hilton  
**Minnesota**  
St. Paul.....The A. I. Root Co.  
1024 Mississippi Street.  
**Missouri**  
High Hill.....Jno. Nebel & Son Supply Co.  
Springfield.....Springfield Seed Co.  
St. Louis.....Blanke & Hauk  
**New Mexico**  
Carlsbad.....Edward Scoggin  
**New York**  
Syracuse.....The A. I. Root Co.  
New York City.....The A. I. Root Co.  
44 Vesey Street.

**Ohio**  
Columbus Grove.....McAdams Seed Co.  
Toledo.....Griggs Bros., 521 Monroe St.  
Zanesville.....E. W. Pierce  
Cincinnati.....C. H. W. Weber  
2146 Central Avenue  
**Oregon**  
Portland.....Portland Seed Co.  
**Pennsylvania**  
Du Bois.....Prothero & Arnold  
Philadelphia.....The A. I. Root Co.  
10 Vine Street  
Williamsport.....E. E. Pressler  
633 Lycoming Street  
**Texas**  
Dallas.....Texas Seed and Floral Co.  
San Antonio.....Udo Toepperwein  
Uvalde.....D. M. Edwards  
**Utah**  
Ogden.....The Superior Honey Co.  
**Virginia**  
Spottswood.....W. E. Tribbett

\* These dealers buy our goods in carload lots but supplement them with local-made goods.

## THE A. I. ROOT CO., Medina, Ohio





(Entered at the Post-Office at Chicago as Second-Class Mail-Matter.)

Published Weekly at \$1.00 a Year, by George W. York & Co., 334 Dearborn Street.

GEORGE W. YORK, Editor

CHICAGO, ILL., MARCH 7, 1907

Vol XLVII—No. 10



### Carrying Up Dark Honey

At the Ontario convention Mr. Alpaugh said that under certain conditions there was danger that bees might carry up dark honey from the brood-chamber into the surplus apartment; and Mr. Holtermann said he had known buckwheat to be thus carried up.—*Canadian Bee Journal.*

### Working at Bees When Sweating

"Never work at a hive when you are sweating. Bees have a strong dislike to the exhalations of one in a perspiration."

That is the advice given in a foreign bee-paper. Some bee-keepers in this country, with hundreds of colonies, will smile broadly upon reading such advice. It would work best in a locality where the flowers secrete nectar only in freezing weather, if bees are to be kept on a large scale.

### That *Apis Dorsata* Comb

Among other interesting paragraphs in "Gleanings from Foreign Fields," by W. K. Morrison, in *Gleanings*, is one which reads in part as follows:

The American Bee Journal has a paragraph calling in question the statement that *Apis dorsata* builds a comb with cells  $2\frac{1}{4}$  inches deep; but this is an actual fact, and the thickness of the comb is 5 inches and more where it is attached to the branch of a tree. . . . It is probably true the cells at the top of the comb are not 6-sided, because the stretching caused by the great weight of so large a comb, together with the weight of one whole colony of bees, would serve to draw the cells out of shape.

This undoubtedly refers to a paragraph on page 1045 of the American Bee Journal for 1906, the statement in question being, "They make a large 5-sided cell about  $2\frac{1}{4}$  inches

deep." It is going rather far afield to defend a general statement of that kind by saying that there may be cells of that depth at the upper part of the comb. The defense of the 5-sided cell is somewhat ingenious, but is it possible that those bees make such bad calculations as to have their combs stretch at the top? Suppose they should stretch, would they be 5-sided? Take a piece of poultry-netting with 6-sided meshes and stretch it. If by any possibility you can stretch it so that there shall be one 5-sided mesh in 1000, then it will be time to talk about stretching the big bees' cells into 5 sides. Even then would it warrant the general statement that their cells are 5-sided?

### "How Bees Make Honey"

Mr. M. M. Baldridge, one of the oldest contributors of the American Bee Journal, as well as one or two others, kindly sent us the following which appeared in the New York Tribune Farmer for Dec. 12, 1906:

#### HOW BEES MAKE HONEY.

"A great many people think that bees get honey from flowers," says the Rev. Theodore Wood, in the London Tribune, but that is quite a mistake, for there is no honey in flowers. It is true that many flowers have sweet juices. But sweet juices are not honey; and before they can be turned into honey they have to be swallowed by a bee.

"When a bee goes out on a honey-making expedition it depends a great deal upon its tongue, which is very long and slender, and is covered all over with stiff little hairs, so that it looks just like a tiny brush. With this the bee sweeps out the nectar from the blossoms into its mouth, and goes on swallowing it, mouthful after mouthful, until it can swallow no more. But the nectar does not pass into its digestive organs and serve as food. It only passes into a little pouch, just inside the hinder part of the body, which we call the 'honey-bag.' When this bag is quite

full, the bee flies off to its hive, and by the time that it arrives there the contents of the bag have been turned into honey!

"How this is done I am sorry to say I can not tell you; for nobody has ever been able to find out. If we examine the honey-bag through the microscope, we can find nothing to account for the change. It seems to be just a bag of tough skin, and nothing more. Yet, in two or three minutes after the nectar has been swallowed that wonderful change takes place. And if a bee is fed with sugar and water instead of nectar, it will turn the sugar and water into honey in just the same strange way.

"When the bee gets back to the hive with its load, it goes straight off to a honey-comb, pokes its head into one of the cells and pours out the honey through its mouth until the honey-bag is empty. Then it flies off again to obtain more nectar, and make a further supply. And so it labors busily on from the first thing in the morning till the last thing at night, never being away from the hive for more than a few minutes at a time, and always bringing back a fresh supply of honey in its wonderful little bag.

"Now, perhaps you wonder how it is that the honey does not run out of the cells as soon as the bees have filled them. For these cells do not stand upright, but lie on their sides; and if we were to lay an open barrel of treacle on its side, that barrel would very soon be nearly empty. As soon as the honey is poured into the cell by the bees, however, a kind of thick cream rises to the surface and covers it. And this cream holds the honey so firmly in position that not even the tiniest drop oozes out.

"But when bees want to keep honey for some little time—when they are storing it up for use during the winter, for instance—they are not satisfied with this creamy crust, and are evidently afraid that the contents of the cell may dry up. So they carefully cover it in with a little waxen lid, which makes the cell perfectly air-tight. Next time that you have honey-comb for breakfast, if you examine it carefully you will find that nearly all the cells are closed in this curious way.

"Now, why do you think that the bees take the trouble to make so many small cells in which to store away their honey? Why do they not make two or three really big cells and keep it all in those?

"Well, the reason is that they know perfectly well that if honey is kept in a large vessel it very soon becomes thick, because the sugar in it forms into crystals; and in that case they can not feed upon it. But as long as it is kept in the small cells of the honey-comb it remains quite fresh and liquid, so that all through the winter they are able to use it as food."

As the foregoing appeared also in the London Tribune, we sent the clipping to Mr. Thos. Wm. Cowan, editor of the British Bee

# American Bee Journal

Journal, in London, asking if he knew of the "Rev. Theodore," and he replied as follows Jan. 15, 1907:

DEAR MR. YORK:—We do not know anything about the Rev. Theodore Wood, but I should think he belongs to a class of professional writers who undertake to write on any subject that they think would be popular, without knowing anything about what they are writing. We do not take any notice of all the rubbish that appears in the secular press about bees, and the Tribune is a paper that is apt to print sensational articles, and is not a paper that we place any reliance upon.

The Rev. Theodore Wood is like the other Rev. J. G. Wood, who wrote a book about bees, as he did on a variety of Natural History subjects, and who confessedly knew nothing whatever about the subject except that he read up in order to write the book. After this book was written and was published, he had a number of inquiries from readers asking him questions about bee-management, and not knowing anything about it, he applied to Mr. Hooker to help him in his dilemma. He admitted that he wrote the book only because he was commissioned to do so, and had read up for the purpose. We have a number of such people, and it is evident that the writer of the article you send is one of these. Such writers are not bee-keepers, and we often wonder at the American bee-editors attributing such rubbish to British bee-keepers.

We wonder what you would think if we attributed such articles as I enclose as a specimen of what American bee-keepers know on the subject. We would not print such rubbish!

Yours faithfully,

THOS. WM. COWAN.

The item referred to by Mr. Cowan, in his last two sentences is this, which appeared in the Evening Telegraph, of Dublin:

## OVERWORK AMONG BEES.

Lord Avebury should be interested to learn that to the snake story and the mosquito story American humor is now adding the bee-story. The Minneapolis Journal issues a warning against placing one's bee-hives too near an arc light. A voracious correspondent reports that his own bees mistook a light of this kind for daylight, and continued working until dawn, when they "turned in." In a few minutes the sun was out, and they instinctively returned to their labors, which continued until dusk. After a short respite the re-kindling of the arc light sent them staggering forth for another round of toil. "They were all dead by the end of the week—victims of overwork, every mother's son of them."

We will have to refer this "arc light bee-story" to our Minneapolis readers.

But we wish to thank Mr. Cowan for his complete reply. Undoubtedly both this and the "mother country" are producing some wonderfully vivid imaginations among some of their writers. If only the truth were adhered to, how much less of literary "rubbish" there would appear.

## Virgin Queens and Drone-Comb

L. S. C. says in the British Bee Journal:

It is, I believe, Doolittle who maintains that, with a virgin queen, drone-comb is built so invariably that combs in process will show whether the colony has been dequeened. I do not know exactly upon what observation this is based, for I find that such bees build worker-comb, but there may be conditions other than the mere possession of a virgin queen which would overrule the matter.

Has Mr. Doolittle ever expressed such a belief?

I believe that the American Bee Journal is one of the best papers that I have ever read.—G. S. LIGHTNER, Cedar Co., Iowa.



Our Front Page Pictures this week are something of a medley. Most of them were sent to us by Mr. D. H. Coggsall, of New York State, who attended the National convention at San Antonio last November. The pictures may be described as follows:

No. 1 represents Wm. A. Selser, Mrs. Coggsall, and Mrs. Ball, who, with Mr. Coggsall, were returning from an alligator hunt in the wilds of Florida. Mr. Coggsall is not shown in this picture.

No. 2 is said to have been one of the "speakers" at the National convention in San Antonio. If such was the case, he did his "speaking" outdoors. There were many of his kind on the streets of San Antonio. He seemed to be a very useful "citizen."

No. 3 shows 2 children who seem to be somewhat "colored." There are quite a number just like them in San Antonio and in many other parts of the South.

No. 4 shows the oldest cathedral in San Antonio, and also one of the city plazas or parks. This is a very pretty spot. We had the pleasure of walking through it and also entering the ancient cathedral.

No. 5 represents Mr. O. O. Poppleton in his apiary of "Long Ideal" hives. He was for a long time an extensive bee-keeper in Iowa, but some years ago moved to Florida, where he is perhaps the largest bee-keeper now in the State. We have had the pleasure of meeting him at several National conventions. He is a most genial man and an excellent bee-keeper.

No. 6 shows a part of one of Mr. D. H. Coggsall's New York State bee-yards in winter quarters. From this apiary he has obtained as high as 12,000 pounds of extracted honey in a single season.

**To Bee-Keepers of Indiana:**—Mr. Walter S. Pouder, of Indianapolis, has sent us a copy of House Bill No. 637, recently introduced in the Indiana Legislature. Bee-keepers of that State are urged to write to their State Representatives and Senators asking them to vote for the Bill when it comes before them. It is as follows:

*Be it enacted by the General Assembly of the State of Indiana:*

SECTION 1.—Upon the recommendation of the officers of the Indiana State Bee-Keepers' Association the Governor may appoint for a term of 2 years a State Inspector of Apiaries. Such Inspector shall, when notified of existence of a disease known as foul brood among apiaries, examine all such as are reported, and all others in the same locality, and ascertain whether or not such disease exists, and, if satisfied of its existence, shall give the owner or person who has care of such apiaries full instructions as to manner of treating them.

SEC. 2.—Within a reasonable time after

making such examination the Inspector shall make another examination thereof, and if the condition of any of them is such as in his judgment renders it necessary, he may burn all of the colonies of bees and all the combs necessary to prevent the spread of the disease.

SEC. 3.—Any owner of a diseased apiary, of honey made or taken from such an apiary, who shall sell, barter, or give away such apiary, honey or appliances, or bees from such an apiary, expose other bees to danger of contracting such disease, or refuse to allow the Inspector of apiaries to inspect such apiary, honey, or appliances shall be fined not less than fifty dollars nor more than one hundred dollars, or be imprisoned in the county jail not less than one month or more than two months.

SEC. 4.—There shall be levied annually on the owner of each colony of bees in the State of Indiana one cent for each colony owned, which levy shall be placed on the tax duplicate of the respective counties by the county auditors at the time of the levy of other taxes each year. The amount so collected shall constitute a special State fund, to be disposed of in the payment of the salary and actual expenses of the Inspector.

SEC. 5.—The Inspector shall make at the close of each calendar year a report to the Governor, stating the number of apiaries visited, the number of those diseased and treated, the number of colonies of bees destroyed, and of the expense incurred in the employment of his duties. Said Inspector shall receive three dollars for each day actually and necessarily spent in the performance of his duties, and be reimbursed for money expended by him in defraying expenses: Provided, That the total expenditure for such purpose shall not exceed the amount secured by the special assessment as defined in Sec. 4.

**Luther A. Hammond**, an esteemed resident of Keedysville, Md., and a long-time reader of this Journal, died of pleura-pneumonia the latter part of February, aged a little over 53 years. He was sick only a week. For years he was one of the most progressive farmers and bee-keepers in his district.

**Why Not Advertise?**—There are many dealers in bee-supplies, and those who have bees and queens for sale, who are not now advertising, that might increase their business by advertising in the American Bee Journal. The rates charged are very low, as will be seen by referring to the second page of this number. During the next 6 months will be done the bulk of the season's business among bee-keepers. Why not begin at once to let the readers of the American Bee Journal know that you have something to sell? Our advertising columns are open only to those who will give their patrons "a square deal." If you are in that class we will be pleased to have your advertisement in our columns.

This is the first year I have taken the American Bee Journal. I like it better every copy I read, and will take it, if possible, as long as I keep bees.—A. K. WHIDDEN, of Prince Edward Island.





## Feeding Sugar to Starving Bees

BY G. C. GREINER.

As I expected and feared, the open and comparatively warm weather of last winter (1905-6) induced and compelled bees to use larger quantities of their winter stores than they usually do during steady and colder winter weather. The fall flow from our late honey-sources, such as goldenrod, asters, sweet clover, etc., had not been over-abundant, so that bees had only enough supplies to bridge them over to the early spring flows, if the winter had been one of the usual kind. But under the circumstances, I awaited with fear and trembling, the warm days of the coming spring, that I might find out the conditions of my bees and lend a helping hand where necessary. At last the month of May arrived, and indications were favorable that the warm season had opened to remain so.

All my bees were packed in chaff on the summer stand, making it somewhat unhandy to examine them in a satisfactory way. I therefore stripped them of their winter protection as soon as the settled weather made it safe to do so, which, in this case, was a little earlier than I would have done if possible shortage of supplies had not caused me a great deal of uneasiness.

On May 3, being a warm, ideal spring day, the bees were busily engaged bringing in pollen and honey from early fruit-blossoms, and as I had nothing to fear from robbing or chilling brood, I made a thorough examination of all colonies. The result was a shocking discovery. About one-third of them had plenty of honey so that many could spare in case of an emergency, one or 2 frames, but the rest were practically in a starving condition, not a few so completely destitute of stores that literally not a cell of honey could be seen; all their combs not occupied by brood were as dry as extracting or bait-combs, after they are cleaned out by the bees. But, strange as it may seem, with the exception of a very few, all were strong in bees and had plenty of brood.

To judge from this state of affair, I knew, to prevent a calamity, something had to be done before the rising of another sun, and the only question was how that "something" could be managed to the best advantage. I had no honey in brood or extracting combs; all I had reserved from my extracting combs the previous summer for this purpose I had to use the previous fall in feeding up for winter on account of the unexpected light fall flow, which was so

contrary to my experience of former years.

In Gleanings the editor says: "We have come to the conclusion that we can rear our own bees with sugar-syrup far cheaper than we can buy them." The principle of this assertion I followed to the letter, and I did it in the following way:

In thinking the matter over, I felt anxious to observe these points: To feed all colonies at once (practically) and do it with the least work; to give the least inducement to start robbing; to disturb the colonies as little as possible by opening the hives; and last, but not least, not only to save their lives, but to induce them to start anew and continue brood-rearing, which under the prevailing conditions, I feared they had given up. To hit all these "flies" with one blow seemed quite a puzzle to me at first, but I succeeded beyond all my expectations, as the result plainly proved.

Of course, I had to resort to sugar-feeding. I manufactured syrup in lots of 20 pounds at a time, using 10 pounds of each (sugar and water), and stirring the same without boiling, but slightly warmed, until all the sugar was dissolved. The feeding process was a simple affair. At night, just before dark, I went along the rows of bees, raised the front of their hives one after another to a position of about 45 degrees, turned a soup-ladle nearly full of the prepared syrup into the entrance, and lowered the hive to its proper place. The whole operation was so easily and so quickly done that it complied with nearly all the above requirements.

As an explanation, I will say that all my hives stand level (by test of spirit-level) except a slight pitch toward the front of about one-half inch. To make the above process of feeding practical, every hive had to be pitched at least that much the other way. But that was an easy matter. A little block under the front end of the stand accomplished that, and in many cases, raising the hive on the projecting notch of the alighting-board was all that was necessary.

To test the action of the syrup when being turned in, and make sure that no drowning of bees could take place, I tried the experiment with an empty hive before I undertook the real business. The syrup would run back in a narrow stream, strike against the back of the hive and spread sidewise, filling the corner, formed by the bottom and bottom-rim, with quite a body of the liquor clear across the width of the hive. When the hive was lowered to its level, the syrup would flow forward and form a thin sheet covering one-half or more of the entire hive-bottom. Being satis-

fied that the danger of drowning was reduced to a minimum, I proceeded with the operation.

The following morning I could not resist the temptation to find out how the bees had accepted their ration. I examined a number of the stronger colonies, and a few of the weaker ones, by unhooking the bottom-boards and raising the front of the hives high enough to give a fair view of the bottom. All the former had everything cleaned up; the bottom was perfectly dry, not a sign of the syrup fed the night before could be detected. Although some of the weaker ones had some of their feed left on the bottom, the result of my first night's feeding was so gratifying that I kept it up regularly every night for nearly 2 weeks.

On May 15, bees began to refuse their offered feed, and I could plainly see that another source of sweets drew their attention. The apple-trees had been in bloom for several days and bees were getting quite numerous among the blossoms. In the hives a change was taking place; the white coating of the combs, the well-known and pleasing indications of a honey-flow, and the appearance of new honey were getting quite conspicuous in all the better colonies. These conditions grew more prominent from one day to another, and before I had hardly time to realize what was going on, every comb in many hives was crowded to the last cell with honey; even cells among hatching brood were glistening with their contents. The few surplus cases, both for section and extracted honey, which I had put on when new honey made its first appearance, were full of bees rushing their work at a rate that I never experienced before during fruit-bloom.

As may be imagined, I was rushing things also to get my surplus cases in place, not knowing that a sad disappointment was in store for me. The climax had already been reached, and the drop was as sudden and discouraging as the beginning had been promising. A cold rain set in on the 18th, and continued more or less all through the remaining apple-bloom, with the result that no more honey was gathered until the latter part of June.

Stimulating feeding in the spring to induce brood-rearing is one of the many subjects on which the opinions of our ablest writers are greatly at variance. One sees his only salvation in its practice, while another says it does more harm than good. One reason why the views of our experts run in such opposite directions, is simply because it is a very difficult matter to produce positive proof either for or against it. It is very much the same in the case above stated. To estimate the beneficial results of my 2 weeks' sugar feeding, or the consequence of it had been omitted, is merely a matter of conjecture. However, there are a few facts connected with it from which we can draw a fairly correct conclusion:

1. On May 3, bees were in a starving condition.
2. On account of occasional unfavorable weather at that time, which prevented the bees from flying for days at

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a time, honey was coming in too slowly to keep bees and brood from starving.

3. No colonies were lost from starvation.

4. Bees were seemingly in excellent condition to take advantage of the phenomenal honey-flow, lasting from May 15th to 18th, if the amount of honey stored during those few days justifies that assumption.

Since writing the foregoing, Mr. Latham's rejoinder appeared on page 1015 (1906) of the *American Bee Journal*. Although the opportunity is very tempting to make a detailed reply, I have no desire to do so, for the reason that these long-drawn-out controversies are interesting only to the persons directly connected with them, but not to the general reader. We all know that whoever has the last "say," has all the advantage over his opponent, and it is customary and courteous to give the weak side the benefit of the same. I am willing to let it go so in this case.

I wish to thank Mr. Latham for the kind spirit he exhibited in dealing with me. I gladly agree with him on some points brought out in his rejoinder, but on many others—I don't.

LaSalle, N. Y.

### Bees Building Round Cells— Wax-Secretion, Etc.

BY R. C. AIKIN.

On page 1051 (1906) Mr. Hasty expresses doubt that bees ever try to build round cells. He also hints that bees have much more wisdom than some of us are willing to credit them with. Again, page 95 (1907) he refers to the matter and comes down a little, but only so far as to confess that in the case of queen-cells the mouths of them are round.

Well, Mr. H., you would better hasten to come clear down on the question of round cells, for the fact is, every cell bees build is first round until they cannot longer maintain the circular form. You get your old pipe and some soapy water and start to blow bubbles. You can make one round to start with; the second when it joins its mate dents or flattens a strip of one side. The third joins the first and second and makes two more straight lines where they join; this is then kept up until the 7th bubble is made, which forms a complete circle around the first, and if you keep on adding they just keep on forming 6 around 1, and every one of them, barring the outside ones, has become 6-sided.

The bee begins by plastering a bit of wax to the starting-point wherever she means to build a comb; this is lengthened into a sort of ridge, and other little ridges started from this to the sides, all the while wax being added at the starting point on top of the ridge. As the work goes on the various little ridges are formed into circular walls enclosing space after space, but the mouth of every little embryo cell is round, with thickened walls of the crude wax. As the cell begins to rise from the tiny ridge, the bee begins to shave off the surplus wax from these thick walls, and in so doing they straighten

the partition walls, and they become the 6-sided form, very much as do the soap-bubbles. Just take a look at the comb that is being builded and you will see that the rudiment of the cell, that is, the mouth of every cell where the fresh wax is plastered on, is round; you can see this in almost any comb you may pick up at any time, but it shows to best advantage where the bees have just been building, and never finished the comb.

Again, sometimes we find a row of cells built in between two bars where there was just space enough for the one row; there they build circular cells, or very irregular ones. The hexagon cell is not so because of any great wisdom on the part of the bee; if she were wise she might build square cells where but one row can be put in, but she does not. There is no other form so easy to build as the hexagon, when considering the question of blocking one form against another; here Nature helps the bee out. She could build square cells and block them together in solid masses, but the greater length of side wall would be much harder to make and keep straight, and there would be so much waste space in each of the 4 corners of each cell, when the question of brood-rearing was considered.

Neither would the square cells have so great strength, and would almost of necessity have to have flat bottoms, thus entailing another loss of space, and a thing impossible for the bee to build. Given flat-bottomed foundation, and they either change its form or put extra wax into the corners in their endeavors to reach the sharp angle.

No, no, Mr. H., every cell is *started* in circular form, but as the next or adjoining cells are worked up to it the bee is practically compelled to flatten the rib or wall between, though she might want ever so much to round it. The only way to round them is to fill the corners with *extra* wax. Even with the hexagon form there is some extra wax in the corners, as obtuse as they are.

Many people still cling to the old tradition about the wisdom of the bee; they are thought to know when the master dies, or foretell events; which flower to visit and which not; just when to do this or that, and when not; yet wise or not, she constantly blunders, and when she gets on the inside of a window cannot exercise the wisdom of a common house-fly. The bee is governed in no sense by reason or the exercise of wisdom, but in all things is the creature of instinct and of environment. The master, once understanding all conditions, can just as surely tell you what they will do under this or that, if he thoroughly understands bee-nature, as the mathematician can tell the result in figures when you state to him the factors.

We talk of location ("locality"), what do we mean? Localities differ, seasons are not alike, colony conditions do not come in the same relation to weather, hive, management, flora, temperature, etc.; and so there is to be found a regular kaleidoscope because of the ever-changing relation of factors

that influence. If writers could give us an intelligent statement of factors and their relation in their particular cases or localities, thousands of things that seem mysterious could readily be explained. Of course, we are not expected to know everything, and I am not reproaching any one for ignorance of truths; but I am pleading for common-sense. Let me illustrate:

There are hives and hives, and the man who has mastered the science of management, which is nothing else than understanding bee-nature and the relation of factors, can take any of the hives and get results, provided the hive is adaptable to allow the master to bring his management to bear; but ignorant management with the best hive ever invented will not bring the desired results.

We have a swarm of bees. Now it is the commonest rule that when bees swarm they go with sacs full, and when hived they cluster and hang in great bunches. Having entered the new home, why do they not get a hustle on them and begin to get in supplies? Go to the stand of a newly-hived swarm that has at once accepted its new home, and gone in and quietly clustered, and often they are so quiet, and so few bees coming and going, that you will be tempted to look in to see if they have not absconded. But you find they have gone in loaded down with honey, and are tired from their flight with so heavy a load, and not a cell that they can unload into. Hive them on comb, and see how quickly they will go afield, for they can unload, and will get to work. Without the ready-made comb they cluster and wait, and now comes the

#### SECRETION OF WAX.

Many think wax-secretion is a voluntary act on the part of the bee, but I do not. You can feed your cow and she gives milk. Skimp her in feed and she gives less of the fluid. The naturally poor milker will not milk well with any kind of feed or care, no matter how good, nor will the good milker do poorly unless you make it hard for her to do well by allowing or making bad or unfavorable conditions. Milk is a secretion of the cow and she never thinks about whether she will give much or little, good or bad; and no more does the bee use reason and voluntarily secrete or refuse to secrete wax. That swarm with loaded sacs cannot field, and so hang and rest well-fed. While resting the wax-secretion starts; with many of them it was already in full operation because of the abundance of nectar handled, and in extra-good flows the same loaded condition of sacs before swarming as after; so the next thing is comb-building—almost forced to do it by environments and instinct.

Some have written of strains of bees that put much or little wax in their comb, as the case may be, as though it were a voluntary or intelligent act on their part. Is it? There may be strains of bees that by reason of more vigor, or some cause, incline to free or scant wax-secretion just as there are good and poor milk secreters in cows, whatever caused it in the first place;



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but this alone does not account for heavy waxy or thin brittle combs. Many times a colony may have in process of secretion much wax, and the flow weakens so that there is not the demand to have comb that would be with much nectar coming in. Then, again, there may be an out-of-balance condition caused by varying proportion of fielders to nurses. It is perfectly foolish to condemn a certain queen or colony because it has given different results from its neighbor, without knowing and understanding its conditions—the relation of factors. Relation and number of factors make all the difference, and one must decide intelligently or he may behead the best queen he has, and save the poorest one.

I have heard of a music teacher who set his pupil to playing chords, and kept him at it until he could strike any possible chord or combination of chords, instantly the eye caught sight of them on the staff; but all the time the teacher had strenuously kept the pupil from attempting to play tunes. The pupil kept insisting that he be allowed to play some tunes. At last when the chords were mastered the teacher said the pupil might play a tune, but he said he did not know how, as he had never played one; but he was told that tunes were nothing but combinations of chords and that he could play any possible tune that he might find. This illustrates the bee-business. Once we master and understand the factors and their relation to each other, we can do with the bees just as the music pupil—play any tune we wish.

But it is not possible for man to make all the factors nor dispose of their arrangement or order; we are hampered and hedged about as the bee, but we can make the best of what we can control and adjust. When some one from New York, or from Colorado, or in the white clover regions where there is a June flow, or in some place where the crop is harvested from fall flowers, or from any other of the multitude and variation of localities and conditions, writes and says thus and so is the way, try to put yourself into that man's position and view-point, and make an intelligent analysis, and the disagreement of doctors will vanish, and all will be plain. Many times, when a writer tells of certain experiences, but overlooks some prime factor, I am at a loss to explain his results; but in very many instances, by reading between the lines, the whole thing is as clear as day. Our many differences are because we do not understand one another, because of lack of knowledge, and because of the limitation or incapacity of the human mind.

Man in his actions, both physical and mental, is a bundle of habits. We get into the habit of doing things this way or that way, and should it so happen that the various factors were in favorable relation, a reasonable or even splendid success comes to us, and we are led to think we are "it," and know just how. I know the reader will pardon a personal experience that illustrates the point:

The first 10 to 12 years of my bee-

keeping experience was spent in what was then a new prairie country in southwest Iowa. The only sources of nectar that supplied both winter stores and surplus were fall flowers; sometimes it was starvation even in July, but usually enough spring and summer bloom to supply present needs with a filling of brood-combs in August with the main flow between Aug. 15, and Sept. 15. You see how I had all summer to build up strong colonies; could make early nuclei, and make of them strong colonies before the surplus flow. This relation of factors caused very little swarming at the usual time, or June and July, and when the surplus season did come it was fall, and the bees seemed

little inclined to swarm so late, no matter how strong.

All these years it was no trouble at all to control swarming. In white clover districts the brethren were writing and complaining of swarming, and the awful times they told about was a puzzle to me. At last I decided I would write some, too, and tell of my non-swarming strain of bees, and seriously thought of going into the business of selling such queens. Fortunately, before I got around to it white clover was plentiful, with May and June surplus; my bees of years of non-swarming went crazy, and I imbibed a little more sense. See?

Loveland, Colo.



### Convention of Bee-Keepers' Associations at Brantford

REPORTED BY J. L. BYER.

(Continued from page 171.)

#### TUESDAY AFTERNOON SESSION.

"What is the best hive—the 8 or 12 frame Langstroth?"

The majority of the members favored a hive larger than the 8-frame Langstroth.

"Why do bees outside need a flight, while those in the cellar do not?"

Mr. Trinder stated that he wintered his bees outside, packed them very warmly, and they never offered to fly, even if his neighbors' bees were flying freely.

"What is the use of putting honey in 60-pound tins, when they are not to be the final packages?"

Mr. Holtermann—Under certain conditions, they are of considerable advantage. There is no time to put into small packages in the busy season.

Mr. Shaver would not wash 60-pound tins that are to be carried over, but Messrs. Holtermann, Armstrong, Byer, and others would, for fear the honey left in would deteriorate and cause the tins to rust.

#### BUILDING UP COLONIES FOR THE HONEY-FLOW.

Mr. House now gave his address on the subject of "Building up Colonies for the Honey-Flow." He stated that every structure must have a foundation. The foundation of a crop of honey was a good, prolific queen. In this, with him, the Italians were a failure; his choice being a cross of Carniolans and Italians. Abundance of good stores, and protection outdoors or in a repository were also essentials. In spring a thorough

examination was made of each colony. Enough stores should be present, but not too much, and he wanted a good telescoping cover packed with some non-conducting material on each hive. In about 2 weeks most of the colonies should have all the brood the clusters can cover. Normal respiration of the bee is 3 or 4 times a minute; under abnormal conditions, as high as 124. The greater the respiration, the greater the activity and the higher the temperature. Honey coming into the hive will bring about all these factors. Hence the thing necessary to increase brood-rearing is "stimulative feeding." A small feeder is used, and the stimulating is done in the evening. Thus the temperature is kept up through the cool night to where it was during the day. If stimulative feeding were started, it was very necessary to keep it up till the honey-flow. To feed a while and stop, was positively harmful, as a great lot of brood was started, and if feeding were stopped, a large amount of this brood would starve or chill to death.

Notwithstanding all the speaker had said, he was glad to know that by a proper selection of the Carni-Italians, queens could be had that would rush brood-rearing in the spring to such an extent that feeding could be dispensed with. He used a sectional brood-chamber, 2 cases 14½ x 18 x 6 inches, to each colony for winter. By fruit-bloom to each colony should be added a third case of 10 Langstroth frames of brood, and at this time he adds a third case to give additional room.

At the opening of the clover flow he treats every colony by taking away the 2 sections of brood, and substituting a case of new combs on which the old queen is left with most of the bees. The brood-chamber taken away can be used as increase, or piled up indefinitely and run for extracted honey. The

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bees on the old stand are run for comb honey. Supers are added as needed, always at the top; never more than 4 are left on the hive at once. At the close of the white honey-flow, these colonies all having old queens, are doubled up simply by putting one brood-chamber on top of the other. As these colonies are all to be re-queened during the buckwheat flow, no attention is paid to looking for queens at this time, and they are left to fight it out.

Mr. House considers it of great importance to have new combs under the sections in order to produce a fancy article. In fact, he would "throw the old combs into the ditch" rather than use them.

Mr. Chrysler—With me, if I restrict the bees to as small a brood-chamber as Mr. House does, the bees will swarm in about 3 weeks.

Mr. Byer—Is there not a danger of those brood-combs giving an inferior quality of extracted honey?

Mr. House—Yes, there is that danger to guard against, but I am more concerned about the comb honey.

Mr. House stated in regard to stimulative feeding, that where it was practicable, outdoor feeding of honey in small quantities every day was advisable, and mentioned a Dr. Park who had practised this system with immense success.

Mr. Holtermann said he never before fully understood why stimulative feeding stopped suddenly was so harmful. He would caution against feeding honey from danger of foul brood.

Mr. Miller also thought that it was unwise to take the risk.

Mr. Root said he had visited Mr. House and found the quality of his honey away above the ordinary. He asked for a show of hands of those who used divisible brood-chambers. Three held up their hands.

Mr. Hershiser was positive that old brood-combs, even in the first extracting, produced as white honey as would new combs.

Mr. Holtermann and a number of others disagreed emphatically with Mr. Hershiser, and the Chairman, asking for a show of hands on the question, found 20 to 2 in favor of new combs.

Mr. Hershiser asked Mr. Root to conduct experiments along this line and show the people that the 2 were right.

## SIZE OF ZINC PERFORATIONS.

"Are the perforations in this sample of excluding zinc too small?"

Mr. Root said he was glad this matter was brought up; the sample submitted was the Standard Root zinc .162 to .163 of an inch perforations.

On the advice of Capt. Hetherington and some others, they had made the perforations as they are now, instead of .168 to .170 as they were formerly. Lately some evidence had come in that had made him think that possibly the holes were too small. It was no trifling matter to his company, as the dies cost over \$1,000 per set. Carniolans were slightly larger than Italians and the trouble reported was more with the former race of bees. They wanted the truth about the matter, no matter what

it cost. If the zinc was not right it would be remedied.

Mr. Holtermann and a number of others thought the zinc as at present made is all right.

Mr. Hershiser said he believed it would be advisable to increase the perforations slightly.

Mr. Chrysler had sold a large quantity of old-style zinc without a single complaint, but a lot of the new-style zinc (Root) had been returned to him, the bee-keepers claiming that the bees could not get through them.

Mr. House had 300 or 400 Root-zinc-excluders and had no trouble. But with 100 old-style, too many queens got through.

Mr. Miller would not like to see any change made. Attention was called to the fact that it was necessary always to put the rough or burr side of the metal up so that the loaded bees came against the metal on its smooth side.

Mr. Root said it was very difficult to punch steel metal without leaving a slight burr on one side. The burr was so slight that no harm was done if the zinc were put on right, as had been mentioned.

## RENDERING OLD COMBS.

"What is the best method of getting wax out of the old combs?"

Mr. Coggs—An important question. Pulverize the combs thoroughly and wet them. Then use a press, the more powerful the better. From 20 barrels of slumgum saved up the past 18 months, from which he thought he had got most of the wax, with his kettle and sack process, he had recently extracted 700 pounds of good wax with a Hershiser press. All agreed that in the past thousands of pounds of wax had been wasted. Slumgum from solar extractors invariably contained from 30 to 35 percent of wax, and from other sources large varying amounts.

Mr. Craig read a letter from Mr. France, relative to the Ontario beekeepers joining the National Association. It was moved by R. F. Holtermann and seconded by F. J. Miller that we as a convention, represent to the Ontario Bee-Keepers' Association the advisability of our members joining the National in a body. Carried.

## WEDNESDAY EVENING SESSION.

### FEEDING HONEY-DEW IN SPRING.

"Will it be harmful to use honey-dew for stimulating bees next spring?"

Members differed in opinion. Some intended to try it, while others would not take the risk.

Mr. House had used it once with disastrous results.

Mr. Root thought some honey-dew would be all right, while other grades were unfit for any purpose.

A Member—How can we know when honey-dew is being gathered?

Mr. Shaver—By color, objectionable flavor, and by tracing the bees in their working.

### RELIEFING BUCKWHEAT HONEY.

"Can buckwheat honey be liquefied without injuring the flavor?"

Mr. Holtermann—Yes, but it requires to be done carefully.

At this time Mr. Laing asked leave to present the following resolution:

*Resolved*, That the Secretary of this Association be instructed to request the officers of the National Association to hold their next annual meeting in the city of Detroit, where we believe a great many of the Canadian bee-keepers will attend." Carried unanimously.

Mr. House was asked to explain the general principles of the Betsinger separators. He commented on recent articles criticizing this separator adversely, and said he felt that if Mr. Root had looked into the matter closely he would have found some cause for the trouble reported by Messrs. Burt and Dibbern. Personally, he had used thousands of them and never had the bees build comb fast to the separators. Some of their advantages over other separators were free communication for the bees and equalization of heat through the super. The surface of the sections was always smooth and not ridgy, as was the case when using fence-separators. While the initial cost of them was higher than other kinds, yet he would use them if they cost double.

Mr. House also exhibited a sample of the Betsinger Carton, and said that honey in this carton always brought 2 cents per pound more than the market price. Speaking of the care of comb honey, Mr. House said that if honey were "weeping," if the temperature of the room were raised to 100 or 110 degrees and kept there for 3 days, the honey could be redeemed.

Mr. Root—This is a valuable item and worth coming to the convention for. He wished to say that he had seen some wonderful results from the use of the Betsinger separator, and was at a loss to understand such a difference as reported by Messrs. Burt and Dibbern.

A number of samples of honey—good, bad, and indifferent—had been collected. Grocers of the city were invited to be present, and Mr. Smith was asked to explain the difference in samples, pointing out defects, etc. About 30 samples were on exhibition varying from No. 1 clover honey to the vilest of honey-dew. A sample of unusual interest was 2 sections of fancy honey in perfect condition, in a case; produced by James Armstrong in 1896. Mr. Root and others said they had never seen anything like it before. Another sample of extracted was from Vancouver, B. C. It was also 10 years old and in fair condition, a peculiar thing about it being that the levulose and dextrose had separated—half of the sample liquid and other half granulated.

Regarding grain and flavor of granulated extracted honey, Mr. Coggs and others said that stirring honey just as it is about to granulate will improve texture and flavor, and also change color somewhat. About 45 minutes was spent in an informal manner, discussing the various samples; after which the convention adjourned to meet in the morning.

(Continued next week.)



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Conducted by J. L. BYER, Markham, Ont.

## Second-Hand Tin Honey-Cans

"I am done with them," quoth W. Z. Hutchinson in the January Review, speaking of the use of second-hand tin cans for honey. I suspect a good many other bee-keepers have come to the same conclusion; certainly the writer of this has had all the experience he wants with the article.

To be sure, second-hand tins accumulate on the dealer's hands, and it seems too bad to discourage the sale of them, viewing the matter from that standpoint. But as far as the bee-keeper is concerned, I feel sure that second-hand tins are dear at almost any price, especially if the white table honeys are to be stored therein.

The second-hand tins I have bought have been, as a rule, unsatisfactory in many ways. Quite a large percentage have leaked, more or less would be battered and rusty either inside or out, or both, and all were invariably *mussy*. A greater objection is the danger of foul brood, if the cans are received in warm weather. Some time ago I bought some second-hand tins to put buckwheat honey in, and when they came to hand I found the shipping tags of the man who had sold the dealer his clover honey still attached to the tins. As I happened to know that this bee-keeper's apiary was rotten with foul brood, needless to say those cans were "out of sight" in short order. It is only fair to add that the dealer from whom I bought the tins was perfectly honest, and never suspected anything wrong.

## Use of Bee-Smoker and Bee-Veil

While the discussion was on relative to smokers at the Ontario convention last November, Mr. Brunne claimed that he did not use a smoker during the honey season in managing 110 colonies of bees. I am not going to contradict Mr. Brunne, but I want to say that there must be some personal magnetism about him, or else his bees are entirely different from any it has been my pleasure to come in contact with.

But granted that it is possible to do without a smoker, will any sensible bee-keeper contend that that fact would make it advisable to do so? The most of us don't keep bees for the purpose of seeing if we can manage them without a veil or smoker; on the contrary, the veil and smoker are used in just the proportion that their use will help

us to work rapidly, with the least injury to the bees.

During queen-clipping I never use a veil, for the reason that bees are not nearly so cross as later in the season; and, again, it is much pleasanter to work without a veil, when the work consists principally in using the eyes. Later on, in the extracting season in particular, I want a veil, every time; not that I dread the stings so much, but more so as a time-saver, for no matter how quiet a strain of bees, there are sure to be in a large yard some cranks flying around the operator's eyes. While it is quite possible to do without a veil even at such times, the practise of some good bee-keepers proves this. Say, wouldn't there be fun in the majority of cases if the operators tried to take off the honey from 100 colonies without the use of a smoker?



Conducted by LOUIS H. SCHOLL, New Braunfels, Tex.

## Does the Elm Yield Honey?—Other Subjects

So you think the elm a honey-producer as well as a great pollen-producer, do you Mr. Scholl? I think if you will investigate more closely you will find the bees were at work on the leaves of the elms, gathering this dark honey you mention in a recent issue of the American Bee Journal; that it was "honey-dew" the bees got from the leaves, and not real honey from the bloom. I never could decide that bees got anything but pollen from the elmblooms. I am open, however, to conviction, and would rather know you were right than myself.

### FEEDING COMBS OF SYRUP

The way I've been feeding my bees this winter is this: I go over the apiary through the middle of the day while it is warm, lift the hives so as to tell which are the light ones, and mark those that I think need feeding. I then

## Bee-Cellar Heated With an Electric Heater

Mr. E. G. Hand, of Fenelon Falls, Ont., winters his bees in a cave or cellar made by remodelling an old lime-kiln. While he has had fair results in wintering in this cellar, yet the temperature was generally a little too low in severe weather, and the walls were inclined to be quite damp.

While spending a day with me last September, Mr. Hand intimated that he intended to try to remedy these adverse conditions this winter by installing a small electric heater in the cellar. Just a few days ago a friend living near Mr. Hand wrote me that the heater was a success, and said that he had just come from visiting the cellar on the coldest day we have had this winter, and found the thermometer standing at 47 degrees.

I might say that Mr. Hand is only a short distance from where the electrical energy is developed, and I understand the cost is quite low; but doubtless with the spread over the country of electric power, many might avail themselves of a like convenience, even if they should be a considerable distance from where the current is generated.

I hope in the near future to be able to give the readers of "Canadian Beedom" a full description as to how the heater is arranged, and also give results of wintering as compared with other winters when the cellar was unheated.

light the smoker, open the hives, and take out the empty combs right up to the cluster of bees. I make an estimate as to how many combs of sugar syrup each colony will need. Then I fill the combs with warm syrup by using a quart dipper with holes punched in the bottom from the inside. The combs are now filled by holding them over a common wash-tub with the syrup dipped up and allowed to stream through the holes in the dipper so as to fill the empty cells in the combs. When one side is filled reverse and fill the other.

As fast as they are filled hang the combs in empty hive-bodies. The hive-bodies should be above the ground on a bottom-board, and a vessel put under to catch the drip. As fast as the combs are filled stack up the bodies until you have all the combs filled you wish to use. Then about the time the bees stop flying for the day, hang the combs of syrup right up to the cluster of bees, putting in the number you wish each

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colony to have. In this way there will be little or no excitement among the bees, and we have the feed right where it is wanted.

## COTTON-SEED MEAL AS POLLEN

A novice in bee-culture, here in the South, who said he was a reader of the American Bee Journal, wishes me to answer the following questions for him:

1. I notice my bees at work very busily where cotton-seed meal is being fed to stock, collecting it and packing it on their legs like pollen. For what purpose are the bees collecting this meal?

2. Will this meal in any way harm the bees?

3. What effect will this unusually warm winter have on the bees? Will it be detrimental or otherwise to them?

To the first question I will say that the bees are gathering the cotton-seed meal for the same purpose that they use natural pollen. We have often seen bees collecting cotton-seed meal and using it for pollen, and they will start brood-rearing the same as with natural pollen.

2. No, the meal will not harm the bees except in one way—it will cause them to start brood-rearing in winter, and cause the bees to use an unusual amount of stores. If you don't look sharply they will starve before spring.

3. The effect it will have on the bees is given in the answer to the second question—that is, brood-rearing out of season and a large consumption of stores, with the result that many of us will be compelled to feed. So we consider the warm winter detrimental rather than otherwise to bees in the South.

L. B. SMITH.

Rescue, Tex.

Perhaps I am wrong in my conclusions that the bees get the honey from the blooms of the elm, but I know the honey comes from the elms all right. We will watch again when they bloom.

## Poor Queens Often Cause Winter Losses

Winter losses are not always due to the shortage of stores as much as to poor queens. In many cases a colony is short of stores because the queen has been a poor one and the bees did not store enough for the winter. In other cases, the poor or failing queen is lost during the winter months, and this results in winter loss.

## Canadian or Southern Weather?

Summer weather still continues, and 85 degrees, Fahr., in the shade has become quite common. To read of the 15-degrees-below-zero weather mentioned by Mr. Byer, on page 113, makes a person shudder even if he is in a "hot" climate. The lowest we have experienced here was 28 degrees—not below but above zero—and of such short duration was this cold spell that the "roses, violets, and carnations" bloomed on just the same, besides many other flowers that have joined them since those lines on page 70 were written.

Speaking from experience, having

wintered both in the North and the South, I prefer Southern weather, and "I am free to confess that bees in the air and 80 degrees Fahr. is pretty alluring," indeed, when one must be "cooped up" with cold, snow and ice outside, while here I have been out among the bees in shirt-waists making the spring examinations, and counting the frames of brood. It is true the effect of such mild winters becomes noticeable in the spring, as an increased consumption of stores often leaves colonies short. Fortunately,

very few of my colonies will need feeding, especially since a mild spring means early bloom for them. Hence, it will be seen that what has seemed to be a loss in such mild winters is made up in the spring, unless it is in localities where the bees have no access to early spring blooming plants of some kind.

The weekly visits of the American Bee Journal are always anxiously looked for. W. S. WILLIAMS, of Pennsylvania.



Conducted by EMMA M. WILSON, Marengo, Ill.

## A New Year's Wish to Each Sister

"God keep thee," friend, through all the years,  
Through all the joys, the sorrows, tears  
Of life—its commonplaces, too—  
God keep thee sweet, and brave, and true.

"Amid the doubts and fears that rise  
In every life—the mysteries—  
Things that are hard to understand,  
The movings of a mystic hand;  
God keep thy reason sound and sure,  
Thy mind alert, thy heart still pure.

"God keep thee always—this I pray  
For thee, upon this New Year's day."

FRANCES E. WHEELER.

Miss Frances E. Wheeler, the mistress of Cloverbrook Duck Ranch, in New York State, amid her many literary cares, as well as the cares of her numerous feathered family, has found time to send the above greeting to each of the sisters. It was a little late in coming, and has been delayed a little more since coming, but it is so beautiful in sentiment that, like many other things, it will keep sweet and fresh indefinitely, and is just as appropriate now as earlier in the year.

## Buying and Selling Honey Between Bee-Keepers

There was lately a very readable article on "Successful Honey Marketing," in the Bee-Keepers' Review. I can endorse much of it from actual experience. It did not, however, touch on the caption above. There is more or less buying of honey between bee-keepers, and some thoughts on the ethics of the thing have been forced on me lately.

I take it that to the novice no honey is as good as his own, but as the years go by, and the novelty of being a honey-producer wears off, he is willing to listen more to the praises "the other fellow" showers upon his, and when he

reads of "truly delicious honey—a honey with a flavor all its own—a flavor that smacks of the wild raspberry of the forests;" or when a California brother "blows" about his orange-blossom honey, or says, "I could fairly taste the magnolia in it;" his mouth waters for "something better than he has known." He is now interested. He is willing to try. In fishing parlance, "the fish sees the bait;" but as every fisherman knows, to bait a fish, even to hook him, is not always to land him. To show what I mean, I will relate a little transaction:

A (master of language) offers honey for sale; free sample. B writes for it. He receives a postal card which says, "The ——— honey is all sold. I still have some very fine buckwheat, thick, ripe, and rich, that I can sell at 6 cents. If you can use any of this, I would be glad of an order. I can send a sample if you would care for it."

B feels annoyed, as he says to himself, "Why should he send me a postal card that shows me as trying to buy honey, and containing an offer of honey? No doubt it is a good way to advertise, but offers of honey sent into another's territory might well be confidential. I wanted his honey, if at all, for my own use. From this postal it might easily be inferred that I wanted it for my trade, and some, at least, of my customers would object to that. They want home-produced honey.

However, B decides to overlook the postal annoyance as a trifling indiscretion, and says to himself: "I have never tasted buckwheat honey to know it as such. I might like it. I may as well sample it, and if I like it I will buy a can." So without losing time he asks that a sample be sent him as offered.

Fully 2 weeks after there comes a second postal from A, saying, "I am about closing a deal that will take all the honey I have. Sorry to disappoint



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you. Hope I will have more honey next year than I had this."

If B was annoyed at the first postal, his annoyance is greater at the second, and he says in mental reply to it, "Big crop or little crop, you don't bait me again." Nor is it soothing to his feelings when a bee-paper comes to hand 3 weeks later and he finds that same honey, "ripe, rich, and thick," is still being offered in undiminished quantity!

Bee-keepers, courtesy and honest treatment pay. If you don't want to send samples of honey don't offer to do so. If you do offer, send along promptly even if you are about to make a deal. It may count for a sale another time. And at least it should be worth more than the sample to you to know that your prospective customer can not possibly think that you have trifled with him. Some people are, as is well-known, touchy, and while it is undoubtedly true that "There ain't no sense in gittin' riled," riled they will get if you give them half a show.

(MRS.) A. L. AMOS.

Comstock, Nebr.

Mrs. Amos is right; the Golden Rule should prevail among bee-keepers as elsewhere. It pays in the long run. Let us hope that the transgressors she is aiming at are not to be found among the sisters.

## Cleaning Sections—A Day's Work

A pleasant letter from Dr. Max Boelte contains the following:

DEAR MISS WILSON:—I offer my best thanks to you for your kind answer about cleaning sections for market, and appreciate very much the pleasant and cheerful way of expressing yourself. Your answer is of greatest interest to me, yet I am compelled to come back to the subject as soon as I shall be able to do so, for even if it is an answer it still leaves sundry points not exactly clear, and does not establish clearly what I had asked. You speak of the work with T-supers, while we here in California use generally the section-holder style of supers—24 mostly, some also 28—and my inquiry was to know about the average work that could be done with our style of supers, not the T.

DR. MAX BOELTE.

Valley Center, Calif., Jan. 6.

It is much easier to tell just what has been done right here with what we have than to tell what may be done by some one else with some other fixtures, and under different circumstances. But I'll do the best I can to give some kind of an answer, based on actual experience. Before the adoption of the T-super we used other supers, mostly wide frames containing 2 tiers of sections; that is, each wide frame contained 8 sections, said sections being the 2 bee-way,  $4\frac{1}{4} \times 4\frac{1}{4} \times 1\frac{1}{4}$ . They were, of course, taken out of the frames before anything was done at cleaning them, and if your sections are taken out of the frames before any part of them is cleaned, there may be a chance for comparison. I cleaned thousands of these sections, but, without definite memoranda of work actually done, exact figures can not be given. I feel safe in saying, however, that 1200 to 1500 were cleaned in a day, possibly more.

It is only fair to remember that with

much experience I became somewhat expert, and, indeed, I have been accused of being quick-fingered in general. Just how much should be discounted for that is not easy to say. You, Dr. Boelte, can judge as well as I. Possibly it may not be a very wild guess to say that the average hand ought to do three-fourths as much, or somewhere in the neighborhood of 1000 a day.

But we are talking now about doing the work when the sections are so cold that the propolis is brittle. In California, or anywhere where the propolis is soft and stringy, it is a very different matter. If I were obliged to clean such sections, I don't believe I could get through with more than half as many in a day.

There is another factor in the problem. Some localities are more gluey than others. Indeed, in the same locality some sections have five times

as much propolis as others. I can imagine sections with so little glue on them that they might be cleaned in half the average time. I can also imagine sections so gluey that they would require double time.

You will see, Doctor, that there are so many ifs in the case that it is hard to be very definite; but if there is any point upon which you have any further questions, such questions will be cheerfully answered to the extent of ability possessed.

## Honey in Infant's Food

At first the child had half milk and half honey, liquefied with water. Then 4 parts milk, 1 part honey, with a little water. The child grew strong and plump, and never had a single pain, while it slept soundly the whole night long.—British Bee Journal.



The "Old Reliable" as seen through New and Unreliable Glasses,  
By E. E. HASTY, Sta. B. Rural, Toledo, Ohio.

## MEETING OF QUEEN AND DRONE— SIZE OF CELLS, ETC.

I think Dr. Miller is getting a little too near the line of discourtesy in charging me with originality and novelty in what I wrote about the meeting of queen and drone. The Irish Bee Journal has already acquitted me of novelty; and I plead that originality is not what I'm at. I would be happy to quote the publication, page and date about these matters, but a very poor memory forbids me to do so. I have for many years been accustomed to give extra attention to whatever I saw relative to mating, and the whole has "simmered" in my mind. Naturally what seemed to me to be the most illuminative had by far the most powerful effect upon me—while another cast of mind might be swift to forget the very things which moved me the most. There is a decided difference between invention and deductions from a lifetime of reading. When I spin theories out of my own wool, isn't it the fact, Doctor, that I am pretty free to say so—as well as pretty free to do so?

Now as to excess of drones lacking food. So far as honey is concerned, my understanding is that they help themselves to it whenever it is not offered to them in abundance. So, of course, they are supplied—until the dread time comes when the workers decide to make a general onslaught upon them. But I don't believe honey alone is sufficient to keep a drone in beat serving trim—do you? If any one thinks so, the burden of proof is upon

him. The presumption is very strongly the other way. Service calls for nitrogen, to be supplied by nitrogenous food; and honey is nearly destitute of nitrogen. Don't believe anybody can be found that will claim that drones eat pollen, or that they could digest it if they did eat it. If not this, then the alternative would seem to be that they are fed nitrogenous food by the workers—with a bare possibility that the nitrogen given them when larvæ suffices for a lifetime. I'm not ready with any further proof, but I think that a few drones in a hive are abundantly fed, fed with stimulating food other than honey; that a larger number are fed more sparingly; and that with too large a drone army the workers stop feeding them almost entirely.

As to the size of cells built, there are times and seasons when you could hardly coax bees to build a drone-cell anyhow; and then there are times and seasons when it seems as if you couldn't make them build anything else. I suppose Dr. Miller (and other people as well) mend combs at leisure times in the spring, and give them to the bees when worker-comb is the only word. Naturally the splicing shows few drone-cells under those circumstances. But when the honey-flow is on, and drone-rearing is the best word—and, moreover, when they have been several weeks engaged in a running fight with you as to whether they shall have a drone out or not—under those circumstances the conditions are very greatly altered, and one should hardly expect them to build a single worker-cell if

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they can do any other way. When I wrote "desperately difficult," and, "the work is disagreeable as well as long," sore memories of long ago were backing the thing up. I don't like to get beaten by bees—or bee-keepers, (you may have suspected that much); and years ago a big lot of colonies compelled me to "throw up the sponge" and confess that I *could not* keep them from getting drones. My final defeat was largely owing to this scateration of the drone-brood. I tried to shake the combs gently enough that there wouldn't such an awful lot of nectar fly out. The result was that a good many bees would manage to hang on when their comrades were shaken off; and it seemed to me that these remaining bees would consciously hug the scattered cells to keep me from seeing them—but perhaps that was my excited imagination. If Dr. Miller exterminates drones without shaking the bees off, no wonder he doesn't know anything about scattered cells. Half a notion to tweak his nose by claiming that that's just the way he has always done. And (if my frisky adversary wants a categorical answer) a few minutes ago, in the comb closet, I saw a solitary drone-cell on the first comb I came to. And the next time Dr. Miller says he thinks the moon is made of green cheese I shall pull on an apprehensive face and say, "I should like to know how Dr. Miller *knows* this." Page 47.

## FUMIGATING COMBS WITH FORMALDEHYDE.

David J. West reports success at making foul-broody combs clean with formaldehyde. The treatment, as he describes it, is of a very strenuous sort; and yet he makes a final confession that the combs are not *always* clean. That would be a sickener to some of us. Too dire a danger to stand in doubt about. Page 47.

## BEES IN THE ENDS OF THE EARTH.

A missionary who notices bees is just the right one to post us about the bees in the ends of the earth. East Africa, which Saeuberlich reports from, is, it seems, the home of a small, light-colored bee whose actions show singular variation from the behavior of ours. We have our swarms, and rarely fuss with decoy hives. There hived swarms so seldom stay that decoy hives are trusted to almost wholly. And the bear, it seems, is not the only animal whose appetite for honey is so ravenous that he will upset hives to get it. Pity they didn't tell us some name whereby to call this—honey-woodchuck. Page 48.

## HARDLY GO BACK TO 2-POUNDS.

No doubt, Mr. Merrill, the 2-pound section is better theoretically than the scant-pound section; but (do you mind?) turning the wheels of progress backward is very near to the impossible. The moment we poor darkeys grab the big fly-wheel to reverse it we get "frowed." Page 48.

## What Bees Make

TEACHER—"What is it that bees make, Tommie?"

TOMMIE—"Sore spots, ma'am."—*Yonkers Statesman*.



Send Questions either to the office of the American Bee Journal, or to  
Dr. C. C. MILLER, Marengo, Ill.  
Dr. Miller does not answer Questions by mail.

## Superseding Queens in Winter

1. Yesterday (Feb. 17) was the warmest day we have had here this winter, 60 degrees in the shade for the greatest part of the day. I took my bees (10 colonies) out of the cellar for a flight, and found on looking them over that one colony had a patch of drone-brood about 3 inches in diameter, partly capped over on both sides of one comb. I found some worker-brood in the rest of the hives, but this one had none. I found the queen but it looked more like a virgin than a fertile queen. Will bees supersede their queen in winter?

2. We expect to move out on to a claim about 5 miles south of Stratton, Colo., this spring. How is that part of Colorado for bees?

3. Do you think it will pay to take the bees along?

ANSWERS.—1. In the proper sense of the word I doubt that a queen is ever superseded in winter. If a queen is lost, they may try to replace it almost any time. Your queen is a drone-layer, and so worthless.

2. I don't know about that particular part, but Colorado in general is good.

3. If you ship a car, so freight will be little, it may pay. Even then, if prices at both ends are nearly alike it will not pay.

## Bokhara and Japan Clover

How does Bokhara clover (*Melilotus alba*) and Japan clover (*Lespedeza striata*) compare with sweet clover? Are they related? Are they of any value to bees?

PENNSYLVANIA.

ANSWER.—Bokhara is the same as sweet clover, and so, of course, is valuable. I can't tell about Japan clover. Who can, and will?

## Rearing Queens—Mating, Clipping, Etc.

1. I have never been able to make a success of queen-rearing, either from unfavorable season or bad management. I have in mind to try a plan given on page 7, by F. L. Day, in which he makes two nuclei from one colony by putting a division-board between them in the new hive, and leaving it on the old stand. In taking the queen away, can I give her to another colony by depriving it of its queen? Would they accept her at once, or wait awhile? or how long?

2. He says he has never been able to get many laying queens in that way, but by enclosing the queen-cells in West cell-protectors, with spiral cage attached, and then hanging these between the frames of the nuclei, he secured fine virgin queens. What is the West cell-protector? Is not the spiral cage itself the cell-protector? or is it something else?

3. When these virgin queens hatch out, will they not kill each other if not watched and

taken out? and can I introduce them as I proposed to do with the fertile queens?

4. When these virgin queens come out to meet the drones, would the swarm be likely to swarm out with the queens?

5. Do they ever alight, and, if so (with the bees clustered around the queens), would they ever return to the hive?

6. I shall want to clip the queen's wing when she becomes fertile. When should this be done?

7. What is your opinion of this plan? Will you suggest a better one? IOWA.

ANSWERS.—1. Before attempting to answer I should like the privilege of a little chat with both you and Mr. Day lest I may misunderstand. But I'll do the best I can, and will be glad to be straightened out if I do misunderstand.

You say Mr. Day makes two nuclei from one colony by putting a division-board between them. That is possible, but I rather understood that instead of taking a full colony to make two nuclei, he drew brood and bees from different colonies to make his nuclei, in which case there would be no queen to remove. But taking it as you understand it, I reply that when you remove the queen from the divided colony you can at once give her to a second colony which is deprived of its queen, but she must, of course, be caged or the bees would promptly kill her. After being in the hive for perhaps 2 days, she is said to have the scent of the colony, and if it is arranged so that the bees will free her in about 2 days from the time she is put into the hive, she ought to be received all right. A good way would be to put her in the hive in a provisioned cage a couple of days before the removal of the reigning queen, but not allowing the bees to get at the candy till the removal of said reigning queen.

2. If we had our chat together I should like to have Mr. Day tell us more fully about his failure to get laying queens in his nuclei. I have reared hundreds of laying queens successfully in hives containing 2 nuclei each, and some in hives containing as many as 6 nuclei each. He says he failed to get many laying queens, but plenty of virgins, and it sounds a little as if his effort to get laying queens preceded the getting virgins in the cell-protectors. If that supposition is correct, it may be that the failure to get the laying queens was because it was too early. Getting queens much before swarming time is likely to be a failure, and when one does succeed in getting a young queen to lay very early, she is likely to be very poor.

The West cell-protector is a spiral wire arrangement that allows the bees to get at only the extremity of the cell, for when bees tear down a cell they do not do it at the point but at the side. The spiral cage is separate, and put over the protector, so that when a virgin emerges from the cell neither can she get out nor can the bees get in.

3. If the protector be used without the cage, you may count on all the virgins but one being killed as fast as they emerge; but if each virgin has a cage, of course there will be no fighting. The virgins may be introduced in the same way as laying queens, and if taken when less than a day old will be ac-



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cepted as readily as laying queens; indeed, a virgin just out of the cell will be accepted more readily than a laying queen; but a virgin several days old is not easily introduced.

4. No more likely than any other virgins, for you must remember that whether in a nucleus or full colony, every virgin must leave the hive before she is a normal laying queen. It is the general belief that in some cases the bees go out with the virgin on her wedding-flight.

5. According to general belief the bees in such case may cluster and then return to the hive, in very rare cases never returning.

6. She is likely to begin laying when about 10 days old, although it may be a day or two less, and it may be several days more.

7. I am not sure that there is a great advantage in keeping nuclei just for the sake of having virgins hatch out in them without being fertilized. Why not just as well have them in any hive with a laying queen? For in the protector with cage they will hatch out in any hive, whether it has a queen or not. Only if there is a laying queen in the hive there must be food in the cage or the virgin might starve.

If I understand the plan correctly, a virgin is to be hatched in the nucleus, and then given to a full colony where it is to be fertilized. The main thing for which nuclei are used in queen-rearing is to have the virgins fertilized, saving the time of a full colony. Even with the best care a number of cases will be failures, and if a failure occurs in a full colony, there is a serious loss of time before another queen can be got to laying. Either plan will work all right; the only point is that in general it is economy to take the time of a nucleus rather than a full colony to get a queen to laying.

## Bottom and Top Starters in Sections

On page 96 you say, "Have the sections filled full with worker foundation;" and on page 85 I read: "Dr. Miller has for years described his method of using bottom starters (as well as top ones) in sections of comb honey." Kindly explain this method, as I have never seen it in the papers. I have the Daisy foundation-fastener, and would like to try bottom and top starters. Would you make them meet in the center? or how much space between the starters? When they are fastened only at the top, they twist and do not hang true.

ONTARIO.

ANSWER.—The matter is very simple, and your Daisy fastener is just the thing to fasten bottom as well as top starter. It wouldn't do at all to let the two starters meet in the center, for in that case the bottom-starter would be certain to fall down and make a mess. When you buy foundation for sections, you are likely to get it in sheets  $15\frac{1}{2} \times 3\frac{3}{4}$  inches. This is just right to make four starters of each kind. The top-starters are  $3\frac{3}{4}$  inches deep, and the bottom ones  $\frac{3}{4}$ . For a section that is four inches deep inside, you will see that would leave a space of  $\frac{1}{4}$ -inch between the starters. In reality the space will generally be more than that, for the hot plate melts a little of the edges of the starters. First fasten the bottom-starter, turn the section over immediately, and put in the other starter. If your bees are like mine, the first thing they do on being given the sections will be to fasten the upper and lower starters together.

## Cleaning Sections for Market

On page 786 (1906) "Colorado" asks, question No. 2:

"How many cases of 24 sections does your best hand clean in a day?" And, also, "What should be an average day's work for an average hand?" etc.

Now, permit me to say that I underscored the *your* and also *average day's work* and *average hand* so as to call your attention to these words. Of course, it can not be either pleasant or interesting to go into a longer con-

trovery about this matter, and I think neither you nor I are of the "hair-splitting" variety. I will then admit that when I first read these questions, and your answers to them that I had not paid any special attention to the word *your*. For years I have known very well that you work with the T-supers, and, therefore, I should have thought of that. The second part of the query, viz.—*average day's work* and *average hand*—that's where the trouble comes from, for, unfortunately, for years I have not seen any T-supers in this part of California, and, worse still, my apiary also is furnished with the unfortunate section-holder style of supers. Around here there are not many genuine bee-keepers—mostly "farmers who keep bees," and who still work them on the "know-it-all," "rule of thumb" principle, as their forefathers did it. Well, it has happened that once in a while I have met, and do meet, persons who are a trifle above the average "Ignoramus Jake" class, and with whom I can have a genuine "bee-talk," and it nearly always has culminated in this: "Yes, if only this infernally slow scraping were not there!" (I am, myself, of a mechanical turn; can work very neatly in wood and metals, and be it crankedness, or what, I generally make all contrivances myself; and there is an extractor, section-presses, foundation-fasteners, frames, queen and drone traps, etc., all of my make, and in use in my apiary.)

Now, then, you will better understand that my brains have been at work to rig up something to facilitate the scraping performance—save time and labor—and when I read the answers given by you, they stunned me.

1. But why did you not answer that part about *average* a trifle more to the point? For instance, if you had said, "With T-supers, as in my apiary, Miss E. M. Wilson cleaned —; but for section-holder supers only so-and-so much should be the average," etc., would not that have been the better answer? For there are many bee-keepers who do not work the T-super. But enough of this, and kindly excuse my frankness about the matter.

2. I am, unfortunately for myself, the happy (?) owner of an apiary of about 60 colonies, present count (lost only 4 colonies during the terrible spell of 3 weeks' rain, snow, and ice that has visited us), all with the section-holder supers, and a good number of them there are. If the T-super, as you advocate and work it, allows such wholesale scraping and cleaning of sections—well, that one item alone would be an inducement for me to change to the T-super. But, last year was a sad failure for us all, and I, like many of the crowd, am "in it," with lots of material, but a rather small amount of cash at my command. How can I effect a change in a rational and economical way? and when and how should I proceed?

3. Are queen-excluding zincs absolutely necessary for T-supers?

4. Could I use the supers on hand?

5. What are the dimensions of the supers (tight) as you use them by preference?

6. If I can find the answers to these (and other) questions in your book of "Forty Years Among the Bees," please let my know, and I will procure it at once. CALIFORNIA.

ANSWERS.—1. I am painfully aware that I do not always make entirely satisfactory work in replying to questions. Sometimes it is difficult to understand just what is asked for. Sometimes I may not fully understand the conditions attending the question. Sometimes I don't know enough to answer correctly. Yet with all these limitations it is my constant effort to try to put myself in the place of the questioner and answer the *spirit* of his question.

If I understand you correctly, you think it would have been more to the point if I had answered about sections taken from section-holders. Yes, more to your point, but would it have been to the point for "Colorado"? Please remember that besides section-holders and T-supers there are other surplus arrangements, and if I had answered about section-holders, then I ought to have answered about wide frames, and other kinds. But "Colo-

rado" didn't ask about any of these, and please remember that I was trying to answer "Colorado" and not some one else. As nearly as I understood it, I tried to answer the letter and the spirit of his question, and there was nothing to indicate that he wanted to know about section-holders. Perhaps section-holders are not so universally in use as you may suppose, and perhaps there are more T-supers than you suppose. T-supers are in use in Colorado to a considerable extent—perhaps to as large an extent as section-holders. At any rate, that was what I understood him to be asking about, and what you understood him to be asking about in the first part of his question, and I do not yet see that he referred to anything else in the second part.

If it had occurred to me that any one would misunderstand, it would have been better to have specified that my answer was referring to T-supers; but I do not think it would have been the better answer to have answered some other question that some one else might have asked, for if I should follow that plan there would be hardly any end to answering each question. Besides, the way is always open for any one who wishes answers to those other questions to ask them.

I think, although I can not be entirely sure, that the question you want answered is something like this:

"What would be an average day's work for an average hand in cleaning such sections as I have, and in the conditions that I have?"

Frankly, I don't know the answer to that question. Sections in section-holders are not all alike, but I don't think that would make much difference. Conditions may be very different in your place from what they are here, you not having the cool weather we have. That might make a very big difference. When it is cool enough for propolis to be brittle, it separates from the wood readily. When warm and soft, instead of coming off easily, each stroke seems to drive some of the glue into the wood. It is impossible to say just how much difference this would make, but from what you have heretofore said it would be nothing strange if it would take five times as long, or longer. I wonder if you couldn't make a difference by taking some special means to cool off your sections, at least taking them in the coolest part of the day.

We have never done enough at cleaning sections in section-holders here to say what a day's work should be, but when we used wide frames 1000 sections was not too much for a day's work. Probably section-holders would be much the same.

2. I would hardly advise going too fast in the matter of changing to T-supers. While some think them the best, others think them the worst. Better make a trial on a small scale till you know how you like them. I am just a little afraid that you have an exaggerated idea of the gain to be had in the matter of cleaning sections by using T-supers, and I doubt whether that alone would warrant your changing. It will be a simple matter to make a few of them—possibly some of your old supers can be changed—and you can get the T-tins from supply-dealers for about a cent apiece.

3. I doubt that excluders are necessary with any kind of section supers. Certainly, I've never used them with T-supers. But it is probably important that the sections be filled with foundation if the queen is not wanted in them. For if small starters are used then you may expect the queen to go up to lay in the drone-comb that will be sure to be built there.

4. It is entirely possible. I had a lot of Heddon supers that I changed into T-supers.

5. My supers measure inside  $17\frac{1}{2}$  inches long,  $12\frac{1}{2}$  inches wide, and  $4\frac{1}{2}$  inches deep. Being made of  $\frac{3}{4}$  stuff, of course that makes the outside measure  $19\frac{1}{2}$  and  $13\frac{1}{2}$ . They are for 8-frame hives, and take sections  $4\frac{1}{4} \times 4\frac{1}{4}$ , no matter what the width of the section, for different widths can be used in the same super, and, for that matter, at the same time. Mine were made years ago, when  $\frac{3}{4}$  was generally accepted as a bee space. If I were having them made again, I would have them  $1-16$  or  $\frac{1}{8}$  inch shallower. But I should want to be

# American Bee Journal

very sure that the stuff would not shrink any, for less than  $\frac{1}{4}$  would be likely to induce the bees to glue together the sections of 2 supers. Generally there is no trouble, but sometimes when bees are crowded they build comb in my  $\frac{3}{8}$ -inch space.

6. You wouldn't find all these questions answered in the book, but I think you would find answers to a number that it might be profitable for you to ask.

## Bees Tearing Down Foundation

I have had more or less trouble the past season from the bees gnawing out part of the comb foundation, both in brood-frames and supers.

1. What can I do to prevent bees from tearing down foundation in brood-frames where full sheets are used?

2. I learn from your writings that you use full sheets of thin super foundation in sections. Do you ever have any trouble from having these full sheets torn down in whole or in part?

INDIANA.

ANSWERS.—1. I am not sure that I ever had bees gnaw away foundation in brood-frames except at the bottom. Bees seem to have a natural desire for a passage between the comb and the bottom-bar, so much so that even after a comb has been built in the frame clear down to the bottom-bar, if it is not built out very full they will gnaw it out again when there comes a time of idleness. The only secret of prevention that I know of is to give frames of foundation at a time when honey is coming in and when comb is being built. Especially is giving foundation in the fall to be avoided. Perhaps I ought to mention that if foundation comes down to within less than  $\frac{1}{4}$  inch of the bottom-bar the bees will rarely build it down to the bottom-bar. Not only that, but they will gnaw it away until there is a passage-way of  $\frac{1}{4}$  inch or more. Some have succeeded in getting the comb built down to the bottom-bar by reversing the comb, and others have succeeded by getting combs built in an upper story. My way is to have the bottom-bar in two halves, and have the foundation come down between these two halves.

2. Yes, I have had foundation gnawed in sections when they were left on after the bees quit work in them. They are worse about gnawing extra-thin foundation than thin. Not only do they gnaw the lower edge in sections, but also the sides. The remedy is not to leave sections on the hive when bees stop work. Generally I put sections on several days before the bees begin work in them, but somehow the bees don't gnaw before the harvest as they do afterward.

## Uniting Colonies for the Harvest

1. How would it do to shake 2 colonies together at the beginning of the white honey-flow, where each is not strong enough to do good work in sections? Would they fight?

2. If I take away one queen and put on another hive with the beeless brood-frames, and tier the two hives up, would not the brood, when hatched out, make as strong a colony as the one shaken, in a month's time or less; ready to work in sections on the buckwheat flow, which comes here the first of August?

3. I have wished increase. Could I not make 2 colonies from the beeless brood instead of one, by putting in another queen to one hive of the brood?

NEW YORK.

ANSWERS.—1. It might work all right, for the strong colony would store where neither weak colony would. If you contemplate such management, it would be well to have the 2 colonies on the same stand, and then all the field-force would remain on that stand when one of the hives was removed. At the beginning of the honey harvest there is little danger of any fighting when uniting.

2. I am not sure whether I understood you,

but as nearly as I can guess, you mean to take away all the brood from the 2 colonies, also the queen of one of the colonies, leaving on the old stand one queen and nearly all of the bees, and put the 2 stories of brood with the other queen on a new stand, of course having enough bees with the removed queen to prevent the chilling of brood. That ought to work all right; and the removed colony ought to be in good trim for buckwheat.

3. Sure; but of course neither of the 2 would be so strong for buckwheat as if left together. But there ought to be no trouble about their being strong for winter.

## Moving Bees in the Fall

Can bees be moved in the fall, say the last of September or first of October? I want to move them 75 or 80 miles, either by rail or wagon. Can it be done without damage? I have never had any experience in moving bees in the fall, and would like to know from some one that has had. I have moved them in the spring, but that is the only time.

WISCONSIN.

ANSWER.—For more than 20 years I have moved bees every fall, and never had any trouble. But I moved them only 5 miles or less. In the fall the combs are heavier with honey than in the spring, and there are also more bees. So you will see that there must be a little more care against breaking combs, as well as a little more care to have plenty of ventilation. Aside from this you ought to have no more trouble fall than spring. If you can have your choice as to time, it will be well to wait till as much after the first of October as you can, for the cooler it is the less danger of suffocation, although, of course, if you wait for severe winter weather there would be danger of the combs becoming brittle with the cold, and breaking.

## Queen-Cells and Swarming

I started to keep bees last year. Reading your "Forty Years Among the Bees," I found on page 186, the following passage:

"Generally, however, when eggs are found in cells, the next visit will find cells with grubs well advanced. When grubs are found in cells then the colony must be treated."

Why must the colony be treated? Why is it not sufficient simply to remove cells and grubs the same way incipient cells are destroyed, according to your instructions?

NEW YORK.

ANSWER.—Your question involves more or less the whole matter of queen-cells as connected with swarming. When bees begin to think about swarming queen-cells are started. If there comes a dearth so that the outlook is rather discouraging for a new colony to set up housekeeping, or even if there is an approach to a dearth, the cells are likely to be destroyed, and swarming abandoned. The less advanced the cells are, if I am not mistaken in my observations, the less the discouragement needed to induce the bees to destroy them. After the cells are sealed, or near the sealing stage, it will take a good deal of discouragement in the way of dearth or bad weather to get the bees to destroy them.

Generally, however, there is not sufficient discouragement to make them abandon all idea of swarming, and once cells are started and have eggs in them, you may count on swarming in the great majority of cases, if the bees are left alone. Suppose now you open a hive and find cells with eggs or very young larvae in them, and you destroy them. You may find, on looking 10 days later, that there are cells with eggs or very young larvae in them again. That shows that the bees were not in desperate haste about swarming, and if these cells are again destroyed they will postpone swarming for another 10 days—possibly give up swarming altogether. But if larvae are well advanced, then that shows that the bees were strongly set on swarming, for they had started cells and the queen had

laid in them almost immediately after their previous cells were destroyed. Now if we destroy these well-advanced grubs, the bees will not always—perhaps not generally—wait to have another set of cells well advanced, but will swarm with quite small larvae in the cells; possibly with only eggs in them. Now you get the answer to your question, after all this talk, which is that when well-advanced larvae are in cells, if we destroy them the chances are that the bees will swarm before we get around again.

If I don't get the gist of your question, try again.



## Favorable Winter for Bees

The winter here is very favorable for bees. They have had flights about right for best conditions.

F. A. SNELL.

Milledgeville, Ill., Feb. 25.

## Cellared Bees All Right

Bees are all right in the cellar so far. The weather is fine, but no day so far that bees outdoors would or could fly.

Farwell, Mich., Feb. 28. T. F. BINGHAM.

## Good Prospect for a Crop

The prospect for the coming season is very bright for a good crop of honey. Bees are wintering very well in the cellar and outdoors. Though little snow has fallen, yet the ground has remained frozen for weeks at a time, thus protecting the clovers of all kinds. The many letters I receive every day indicate the same conditions prevailing everywhere—"prospects good." However, I am led to believe that in the case of even a fair crop of honey the coming season, some beekeepers will find themselves not prepared. Last season was very poor on the average, and many bought supplies and had some left on hand; they were sorry they bought so much, and will not get any more until they have used up what they have on hand, which will last until about the middle of the season, or just the time when all factories and dealers are in a rush and are short on just what is wanted. Consequently, there will be much worry, vexation and complaint. Cattle farmers always are provided with enough feed and a little extra for cases of emergency from one season to another; but beekeepers seldom consider the question of extras, or emergencies, until the last moment, and the loss occasioned by the delay very often amounts to a good deal.

H. S. DUBY.

St. Anne, Ill., Feb. 23.

## Oklahoma and Indian Territory as a Bee-Country, Etc.

On page 55, Dr. Miller makes an inquiry as to the value of northern Oklahoma or Indian Territory for keeping bees for profit. I have lived within a few rods of the north line of the Osage, Indian Territory, for over 26 years, and have kept bees for more than 5 years of that time, and I do not consider this a good country for bees—

1st. Because of a lack of nectar-bearing bloom.

2d. Because of the extremes of this climate; but by selecting a protected locality and raising plenty of nectar-bearing bloom, a fair business might be attained.

POISONED BY BEE-STING.—Remedy: Put oil on the part stung, then cover with common soda. Eat oil sardines, or take broken doses of olive oil. This will fortify the sys-



# American Bee Journal

tem to some extent against insect or ivy poison. (See page 16.)

"A millionaire egg-laying queen-bee induced to deposit her 5 years' batch of eggs in 2 or 3 years." Although I live about 100 miles west of Missouri, I will have to ask Mr. Doolittle to show me. I have heard it said, to make a hen lay, run her up hill; but one of my neighbors says to feed her kaffir corn beats running her up hill; next an Oklahoma man comes to the front and says if you want your hen to lay 2 eggs per day, feed her cow-peas; but how do you work the queen-bee! (See page 67.) I. M. NEWMAN.  
Howins, Kans.

## T-Super vs. Wide Frames

There seems to be such a fuss between the T and the wide-frame super. I use a cross between both. I use plain sections and fences, and by driving a large flat-headed tack (about 1/2-inch in diameter) into the bottom-end of the 3 center cleats on the fence so that the heads are about in line with the bottom end of the end-cleats, the sections can rest on the tack heads, and the fences rest on the strips of tin that are nailed on the under edge of the super. By placing a row of sections in the super, the fence can be pushed up and the tack-heads catch under the sections; another row, and another fence, and so on, until the super is full. Springs are used for compression. I got 350 pounds of honey and 5 swarms from 5 colonies last year—50 pounds comb and 300 pounds of extracted.

Sioux City, Iowa, Feb. 18. PETER BOHM.

## Something on Swarming

"All the experiments that have come to me in definite form have been made with 8-frame hives, and colonies in such hives have been regarded as more likely to swarm than larger-sized. I wonder if a great many things are not taken for granted."—T. F. BINGHAM, page 96.

Mr. Bingham, in the same paragraph, asks if any one has made a success of non-swarming with the 10-frame hive. Thinking that some experiments I have made with a hive much smaller than even the 8-frame dovetailed, may be of interest in connection with the extract above, I give them, mentioning only such details as could in any way have influenced the results.

Suspecting (1) that possibly there is a minimum of number below which bees will not voluntarily swarm, or (2) that swarming might be traced to the fatigue of the queen after the great spring laying, I began in 1904 a series of tests that would apply to either idea. The hive used is sectional, each chamber 5 1/2 inches deep. In that year I chose 2 rather weak colonies, removed the lower brood-chamber, and confined the queen to 8 frames, or about 975 cubic inches of brood-room. One stood out in the sun, and the other was protected till nearly noon by a peach-tree. Hive-entrances were full width, and 1/2 inch deep, just as in all my hives. They were run for both extracted and comb honey. By June 10 each queen had everything filled, and kept it so till Sept. 1, forcing all the honey, and no little of it, either, into the supers. Nearly all colonies in hives not contracted swarmed—those in little hives did not.

Not feeling so timid in 1905 I selected, in the latter part of May, 30 of my best colonies, taking such only as had queens reared in 1904. Nineteen of these were treated exactly as the 2 had been in 1904, except that 6 of them, after being contracted, were reduced to 3 double colonies, the queens in each double being separated by a zinc board. These doubles soon became powerful colonies, and on June 15, 2 of them swarmed, all 4 young queens coming out; that is, 4 contracted colonies out of 6 that were doubled up by 2's, swarmed. This result seemed to point toward the "minimum of number" when compared with results in the remaining 13, for of these but one swarmed, and this swarm seemed to follow the accidental death of the queen.

The remaining 11 of the 30 were contracted

to 10 frames, or about 1211 cubic inches. Of these one swarmed.

To recapitulate: Four out of 6 reduced to 975 cubic inches and doubled up by 2's, each colony retaining its queen, swarmed. One of 18 contracted to 975 cubic inches swarmed, appearances indicating the death of the queen. The 13 were singles. One of 11 reduced to 1211 cubic inches swarmed. Of those colonies in uncontracted hives in the same yard, close to 60 percent swarmed.

Inferring from these results that 975 cubic inches was smaller than necessary, and 1211 a little too large, 40 colonies in 1906 were reduced to 9 frames, or about 1080 cubic inches. They were given the same general treatment as to shade, ventilation, and super-room that all others in the same yard received. None of the 40 swarmed, but it was not a swarming season.

It may be well to state that in these experiments every queen used was in her second year, and none was restricted to fewer combs than she had in use when the contracting was done.

Though nothing is established, the results seem to indicate that very low contracting in early spring may tend to prevent swarming. I have a strong suspicion that if the queen can be kept from overwork, bees will not swarm. This is contrary to much that has "been taken for granted," but a great deal might be said in its favor.

E. W. DIEFENDORF.

Otterville, Mo., Feb. 11.

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## Honey and Beeswax

CHICAGO, Feb. 1.—The usual late winter demand is in evidence for comb honey to replace diminished stock laid in during the autumn by the large retailers, but during the dull period there has been very little change, if any, in prices, the offerings being light.

We find No. 1 to fancy white comb honey brings 15@16c, and for that which is off in color and flavor from 1@3c less. Amber grades of all kinds are dull and range in price from 10@12c. The extracted perhaps is not quite so firm in price for the California or Western grades, but there is no surplus of white clover or basswood, both of which bring about 8c, and in some cases more. Ambers grade from 6@7c. There have been some sales of beeswax at 32c, but 30c is about the price for average.

R. A. BURNETT & Co.

PHILADELPHIA, Nov. 8.—While the supply of comb honey is equal to the demand, large quantities of comb honey having arrived in the market in the last few days, the price still remains high. The outlook, however, is that when the season advances and the bee-keepers ship more of their crop to the market, the prices will be a little weaker. We quote: Fancy white comb honey, 16@18c; No. 1, 14@15c; amber, 11@13c. Fancy white extracted, 7½@8c; light amber, 6½@7c.

We are producers of honey and do not handle on commission. G. W. A. SELSER.

NEW YORK, Jan. 15.—The stock of white comb honey is pretty well exhausted, and we do not expect any more arrivals of large lots from now on. Prices are firm, and we quote from 15@16c for fancy white; 13@14c for No. 1; 12c for light amber. There is quite a little dark and buckwheat on the market, but no overstock, and we think that all of it will be disposed of before long at present prices, which we quote from 10@12c, according to quality. Extracted honey very firm, with sufficient supply to meet demand. California white sage is bringing from 8@8½c; light amber, 7½c; amber, 6½@7c; buckwheat extracted in fairly good demand at 6@6½c. Southern in barrels finds ready sale at from 55@70c per gallon, according to quality. Beeswax firm and steady at 31c.

HILBRETH & SUGLICK.

DENVER, Feb. 14.—Producers in this State are practically closed out of both comb and ex-

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# C. H. W. WEBER

CINCINNATI OHIO

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tracted honey. We have not sufficient good comb honey to supply our local trade, but have a good supply of white extracted of excellent quality. We quote strictly No. 1 white comb honey, per case of 24 sections, at \$3.20; No. 1, light amber, \$3; and good No. 2, \$2.80. White extracted, 8@8½c per pound; light amber, 7½@8c. Clean, yellow beeswax, 27@28c, delivered here.

THE COLO. HONEY-PRODUCERS' ASSN.

CINCINNATI, Feb. 9.—The demand for extracted amber honey has brightened in the past 3 weeks. Amber honey in barrels at 6½@7½c, according to the quality and the quantity purchased. Fancy white extracted honey selling at 8@9c in cans. Comb honey is a drag on the market, fancy selling at 14@16c. Beeswax, 32c. for choice grade. THE FRED W. MUTH CO.

INDIANAPOLIS, Feb. 25.—comb honey is not plentiful, but demand is slack. Fancy white comb brings 16@17c; No. 1 white, 14c; amber, 12@13c. Best grades of extracted honey bring 8@9c; amber, 6@7c. Good average beeswax sells here at \$35 per 100 pounds.

WALTER S. POWDER.

TOLEDO, Nov. 30.—The market on comb honey remains about the same as last quotations, but has been coming in much more freely, as bee-keepers seem to be very anxious to get rid of their stock. Fancy brings in a retail way 16c; extra fancy, 17c; No. 1, 15c; buckwheat, 15c. Extracted white clover in barrels brings 7@7½c; cans the same. Beeswax, 26@28c.

THE GRIGGS BROS. & NICHOLS CO.

CINCINNATI, Jan. 25.—The market on comb honey is rather easy. Prices rule in jobbing ways from 14@14½c; single cases 16c for No. 1 white; off grades not wanted at any price. Extracted is very firm. Light amber in barrels, 6@6½c; white clover in barrels, 7½c; in cans, 8½c. Beeswax, 30c, delivered.

C. H. W. WEBER.

KANSAS CITY, Jan. 25.—The receipts of comb honey have been more liberal during the last week or two, and the demand light, market weaker. The market is practically bare of extracted, and there is quite a little inquiry. We quote: No. 1 white comb, 24 sec. cases, \$3.10; No. 2, \$2.75; amber, \$2.50. Extracted, white, 7½@8c; amber, 6½@7c. Beeswax, 27c.

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3Atf JAMES ISLAND, S. C.

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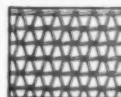
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# American Bee Journal

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4A13t R. M. SPENCER, Nordhoff, Calif.  
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